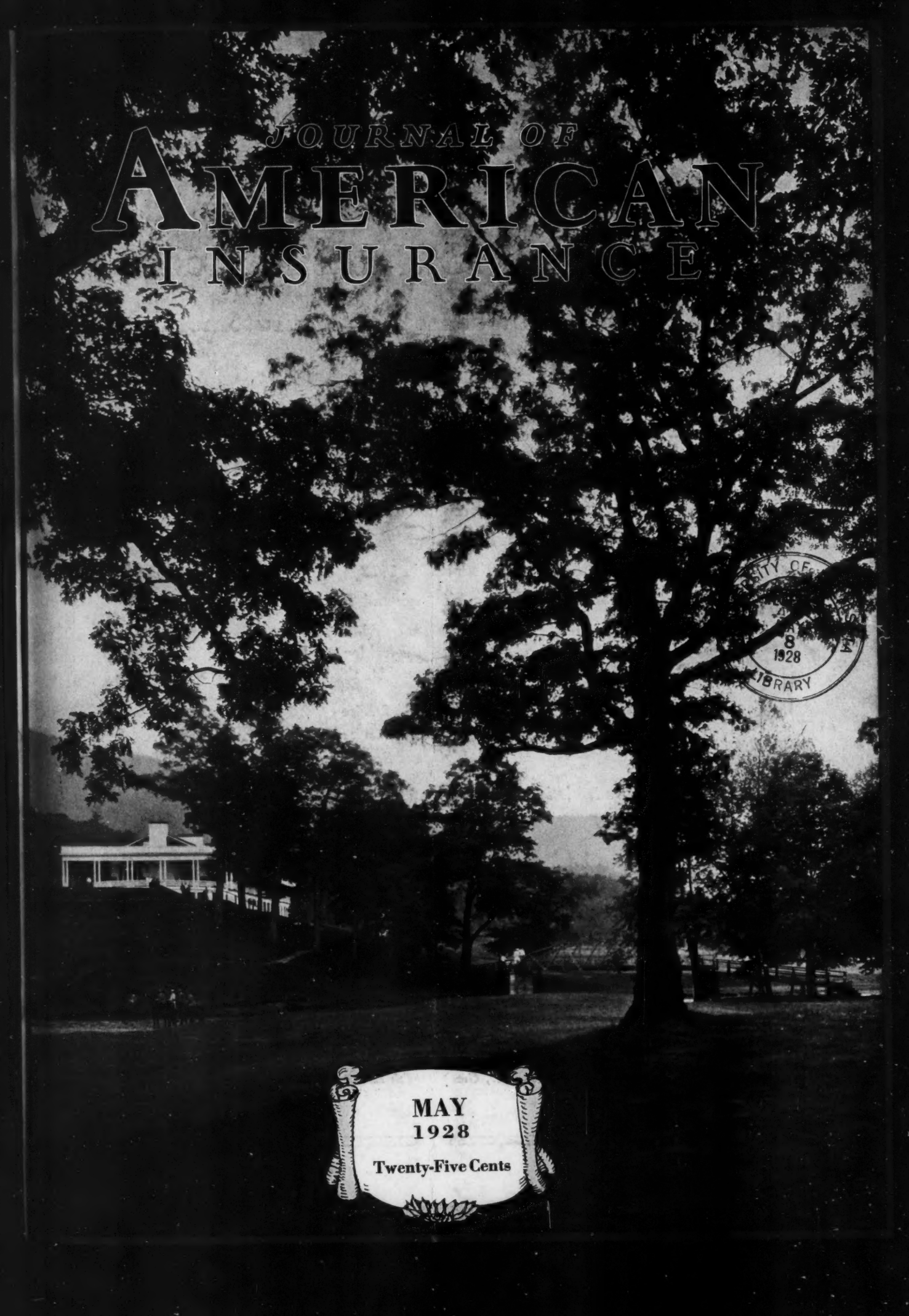
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CONTENTS

MAY, 1928

FRONTISPIECE 4

CROP HAZARDS AND THEIR INSURANCE
By Professor G. Wright Hoffman 5

PREMIUMS ANALOGOUS TO TRUST FUNDS
Py Professor Avard L. Bishop 7

DEVELOPMENT OF AVIATION INSURANCE
By Professor Stephen B. Sweeney 9

INSURANCE AND THE STATE
By Professor Ralph A. Blanchard 11

SPRING MEETING AT WHITE SULPHUR 13

EDITORIAL 14

LIFE LIGHTS AGAINST A BUSINESS BACKGROUND
By S. J. Duncan-Clark 15

FIRE LOSSES AND THE BUSINESS CYCLE
By Professor F. E. Wolfe 19

YOU CAN WRITE RESULTFUL LETTERS
By Charles Henry MacKintosh 21

200,000 EYE ACCIDENTS ANNUALLY
By J. Paul Atwood 23

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Photo by U. & U.

Every Moment of Every Day Fire Threatens Life and Property

Crop Hazards and Their Insurance

Continuing A Series of Articles On the History Of Efforts to Offer the Farmer Protection Against Years of Failure

BY G. WRIGHT HOFFMAN

Assistant Professor of Insurance
Wharton School of Finance and Commerce
University of Pennsylvania

ARTICLE III

Drought

FOR the leading farm crops of the United States, the uncertainty of adequate rainfall is a serious hazard. Indeed, with the exception of the factor of market price and for cotton damage done by the boll weevil, it is the outstanding hazard with which farming must contend. The most recent figures published by the United States Department of Agriculture show for cotton an estimated average loss of 10 per cent of the crop, covering the previous 10 year period, due to deficient moisture and of 6.4 per cent due to excessive moisture. For corn, the figures are respectively 11.8 per cent and 5 per cent, and for wheat 10.7 per cent and 3.1 per cent. These figures are, of course, simply estimates and in addition are averages for the entire crop over a 10 year period. They are, therefore, greatly smoothed and for individual localities and particular years losses caused by this one factor range from 0 to 100 per cent. No one familiar with agriculture will dispute the statement that the one hazard of drought occasions greater concern year by year than any other adverse crop factor.

Our best meteorologists tell us that effective long range forecasting methods to predict the weather a season in advance remain to be developed. The past summer is a case in point. It was predicted by leading private forecasters to be a summerless summer and, while in some respects and for some localities the weather was peculiar, the season certainly did not develop the dire calamity predicted.

Moreover, to be of real value to farming, weather forecasting would need to predict the probable rainfall more exactly than for a season. Prediction would need to be made, in particular, for the period of critical growth for each crop. This requires a still greater degree of skill and it seems reasonably certain that useful results from this source will not be obtained for some time.

ASSUMING then that we will continue to be unable to predict the rainfall and that its absence or abundance will continue to be of the major importance to farming it has been in the past, the uncertainty of adequate rain would appear to be a suitable subject for insurance. Two methods of approach suggest themselves. One might insure the crops against loss or damage caused by drought or by excessive rainfall where such loss or damage exceeded some prescribed percentage of the crop. This is now done in a limited way in the more inclusive crop contracts covering deciduous fruits and truck crops in selected localities. It is also being done in the more limited

Plowing At Night Has Become a Common Incident in Many Localities Where Speed in Spring is Essential to Beat the Drought of Summer

Photo by P. & A.

frost contracts and on a larger scale in hail insurance. To apply the same plan in the form of drought insurance would, however, be very much more difficult because of the difficulty of measuring the damage due only to this single hazard.

The other method that suggests itself is to insure against a lack of sufficient rainfall *per se* or against excessive rainfall. Of these two hazards the uncertainty of deficient rainfall is of greater importance than that of excessive rainfall. Its effect, also, can be more scientifically measured and it will therefore be considered here.

Insure Against Unusual Drought

MENTION has already been made of the fact that each individual crop has a fairly well defined critical period of growth. Within this period a prospective crop may be either matured sufficiently to assure an average crop or so damaged that subsequent ideal conditions cannot fully restore it. It is proposed to insure the farmer against unusual loss occasioned by unusual drought during this critical period of growth, the loss to be determined by the amount of rainfall for the period.

To illustrate this proposal, suppose it is found that for DeKalb County, Illinois, an average yield of corn is 40 bushels per acre, having an estimated value of $32 per acre, and that to produce this crop there is needed during July and the first 15 days of August 5 inches of rain. Suppose, in addition, it is found that for years averaging only 3 inches of rainfall for this 1½ month period, the crop is decreased to 32 bushels per acre having an estimated value of $25.60 per acre; when the rainfall is 2 inches for this period the crop is reduced to 20 bushels with an estimated value of $16.00 per acre. Based on these facts, the company might then insure the farmer to the amount of $16 per acre in the event of a total rainfall for this 1½ month period of less than two inches, or $12 per acre in the event of a total rainfall of less than 2½ inches, and of $8 per acre if less than 3 inches. The premium necessary to write this policy would depend, of course, upon the probability of the total rainfall for this period falling below each of these limits.

This policy would be written subject to cancellation or revision by the company up to say June 25 in the light of crop and market conditions existing at that time. The amount of insurance per acre could be varied to meet each individual risk and the gradations in amounts payable in the event of deficient rainfall made as refined as desired to fit varying degrees of drought.

The writer is aware that a suggestion of this sort abounds with difficulties. There is the question of accurate records upon which to base the insurance; there is the question of the degree of direct relation between the amount of rainfall and the size of the crop; there is the question of making an accurate measure of the amount of rainfall for each risk each year. The writer was raised on a farm and has had enough contact with problems of insurance to know that these are questions extremely difficult to answer. Some light is to be had on the questions, however, and it is believed that the practical difficulties are not insurmountable.

Difficulties Involved

LET us consider first whether there is a direct and significant relation between the amount of rainfall and the size of the crop. Many important investigations have been made throwing some light on this question. The results of only a few studies, which appear to be of greatest use, will be mentioned here.

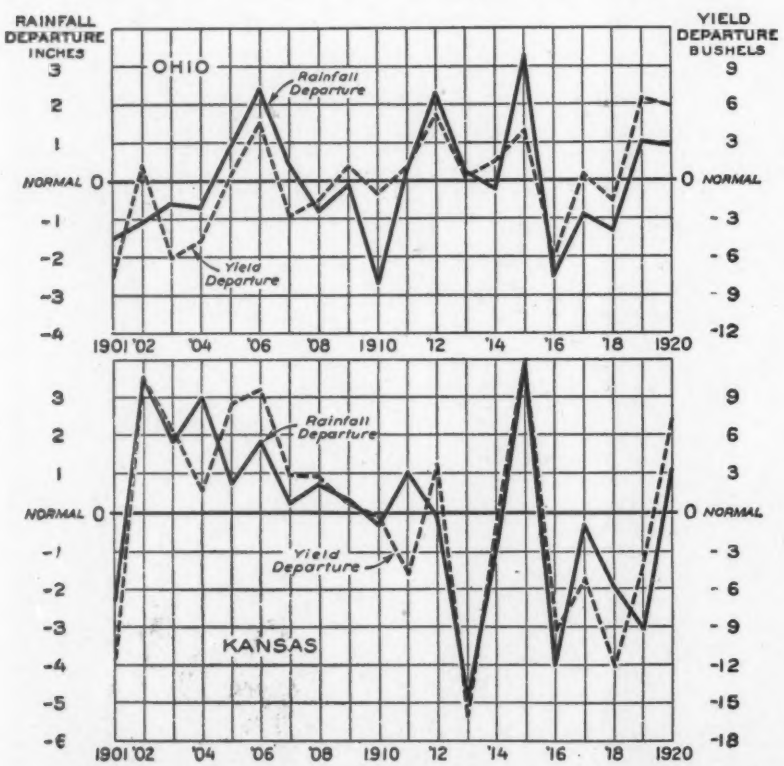
J. Warren Smith has found a fairly high degree of relationship between July rainfall and the yield of corn covering a period of 27 years and including 4 states.(1) A similar comparison by the United States Department of Agriculture(2) for the states of Ohio and Kansas is shown in Figure I.

Both of these studies show a significant degree of direct relationship between rainfall and yield. Dr. Smith's study, which includes the states of Indiana, Illinois, Iowa and Missouri, finds the average rainfall for July to be 3.9 inches and the average yield of corn for the 4 states to be 32 bushels to the acre. "When the rainfall for July in these 4 states has been between 2 and 2.5 inches, the yield of corn has averaged 23 bushels to the acre, and when the rainfall has been between 2.5 and 3

(*Continued on page 28*)

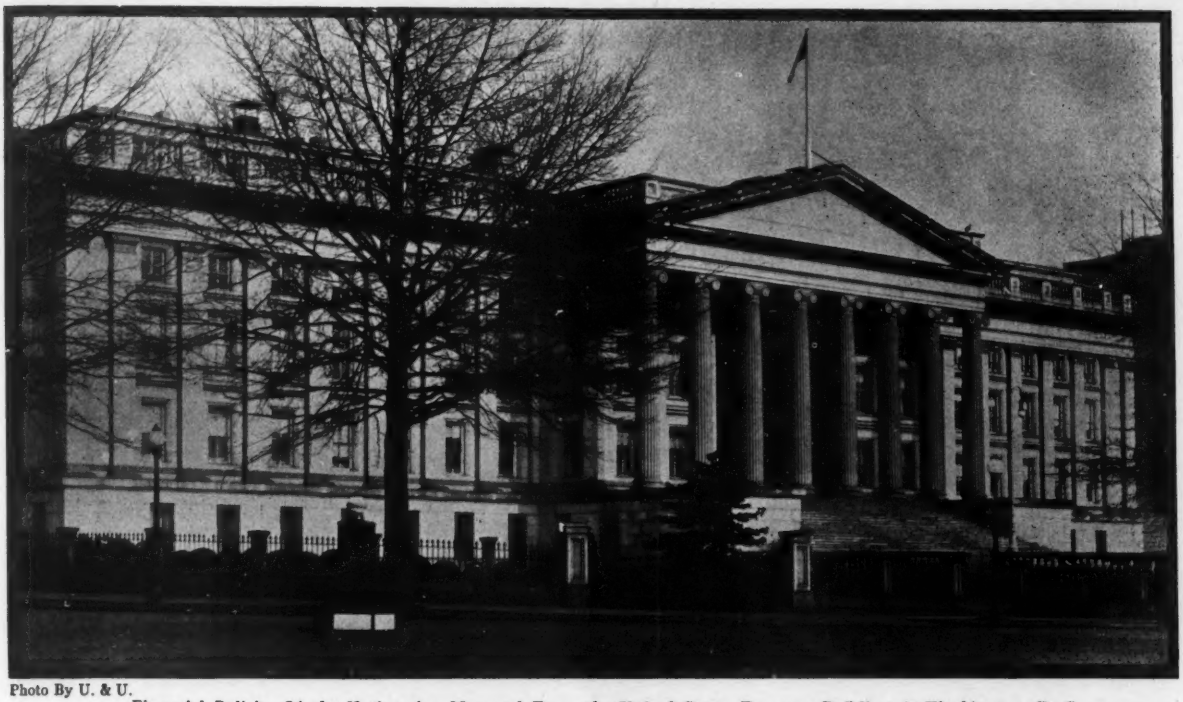
FIGURE 1

INFLUENCE OF RAINFALL IN JULY AND AUGUST ON THE YIELD OF CORN



Regions with abundant and uniform summer rains are the most favorable for corn production, as rainfall usually is the most important weather element for this crop. Where there are wide variations from year to year in rainfall, as in Kansas, there are also wide variations in corn yield, compared with regions where summer rains are more uniform, as in Ohio

(1) Smith, J. W., *Agricultural Meteorology*, Macmillan, 1920, p. 154.
(2) *Agriculture Yearbook*, 1924, p. 509.



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Financial Policies Of the Nation Are Managed From the United States Treasury Building At Washington, D. C.

Premiums Analogous to Trust Funds

What Becomes of the Money Which the Policy Holder Pays in and How the Insurance Company Must Conserve It

By AVARD L. BISHOP

Professor of Business Administration, Yale University

ARTICLE IX

ANYONE who is at all familiar with insurance nomenclature knows that an insurance premium is the sum which is paid in advance by a policy-holder to an insurance company as a consideration for the latter undertaking to assume for the insured a definite risk for a specified period of time. This is not strictly true in all forms of life insurance; for, excepting on certain policies such as term and limited payment policies, the premium ordinarily is not paid for a period predictable in advance. With respect to fire and casualty insurance in general, however, the premium covers the insurance for a limited period, usually one to two or three or even five years. In all probability a very large percentage of such policies run out at the end of one year unless they are renewed or replaced by an entirely new contract.

Inasmuch as the title of our article indicates that we believe there is an analogy between insurance premiums and trust funds, it would not be out of place, it would seem, to comment briefly at the outset upon the general nature of trusts. A trust has been defined by one authority as "something committed to a person's care for use or management, and for which an account must be rendered." Years ago, perhaps when this definition was framed, it was common for natural persons—individuals—to undertake to carry out trust arrangements, but with the change in business conditions forced upon us by the progress of things material, it has become a common practice to turn over trusts or trustee relationships to organizations that are specialists in executing trusts, namely, trust companies, or the trust department of banking institutions. These have the advantage of a continuous existence, that is they are not subject to death as are natural persons.

A TYPICAL institution, therefore, which administers trust funds at the present day is the trust company. It has come to act as trustee for individuals and business organizations for a great variety of purposes. If one should look into the early history of insurance and trust company business as it formerly was carried on in this country, it would be found that the insurance business and trust company business used to be combined, a single company being chartered to carry on both types of transactions. In time, however, the two businesses became separated and it is seldom if ever, that a trust company is now found that is actively engaged in carrying on insurance business of any kind. It is our purpose in this article to show, among other things, that insurance premiums are in the nature of trust funds, although instead of being committed to a natural person's care for use or management, they are committed ordinarily nowadays to the care of an artificial person—a corporate organization known as an insurance company—and, as we shall see, this organization must render an account to the premium payer for what has been committed to its care.

In order to make our discussion concrete, let us consider the premiums of fire insurance policies to illustrate the analogy between insur-

ance premiums and trust funds. Let us assume also that a certain risk has been taken by a fire insurance company for one year and that the premium paid for the coverage is $100.00. As already indicated, it is expected that the premium shall be paid when the policy is delivered, and, theoretically at least, the insurance company through its agent receives the premium just as the coverage on the risk is being undertaken. This premium is virtually a deposit made by the insured with the insurance company; in fact, there are some who contend that the term "premium" is a misnomer anyway, and that it should be replaced by the term "deposit." On the day the policy is written this deposit, if paid, is actually a liability of the company rather than an asset. The insurance company is liable to repay the insured almost the whole $100.00 if the insured should ask at once for a refund of the premium and for the cancellation of the policy. From the company's standpoint, this premium does not belong to it until it has been earned. At the end of six months the company has earned one-half of the premium, so that $50.00 of the premium now actually belongs to the fire insurance company and the liability of the company to the insured represents a very large percentage of the other half of the premium. It is not until the end of the policy year, as the policy is about to expire, that the whole premium ($100.00) can properly be said to belong to the insurance company. This being the case, it requires but little stretch of the imagination to conceive of the fire insurance premium in the hands of the fire insurance company as in the nature of a trust fund—a deposit gradually being earned by the fire insurance company but the unearned part subject to call or recovery by the insured under certain well-defined conditions.

IT will shed further light upon the general subject under discussion here to consider at this point a technical term in insurance circles known as the reserve. In fire insurance, the reserve may be defined as that part of the deposit (or premium) which the insurance company has not already earned, but which is still in the hands of the company as a deposit. It is to all intents and purposes a fund, diminishing, of course, with the progress of time with respect to any particular policy, held in trust by the insurance company for the insured. Normally, it remains with the insurance company until it is all earned, at which time it may truly be said that the deposit belongs to the company. At times, however, it may be paid back to the insured, either at his request or by the company taking the initiative in this matter. Let us look into the matter a little.

The New York Standard Fire Insurance Policy contains the following words relative to the cancellation of a policy on a risk after the contract has been made. "This policy shall be cancelled at any time at the request of the insured, in which case the Company shall, upon demand and surrender of this policy, refund the excess of paid premiums above the customary short rates for the expired time. This policy may be cancelled at any time by the Company by giving to the insured a five days' written notice of cancellation with or without tender of the excess of paid premium above the pro rata premium for the expired time, which excess, if not tendered, shall be refunded on demand. Notice of cancellation shall state that said excess premium (if not tendered) will be refunded on demand."

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From the above it may be seen that the insurance company itself, if it desires for any reason to cancel the policy, has the right to do so, and this may be done by giving the insured five days' written notice of cancellation. The unearned premium over and above the pro rata amount, of course, has to be paid back to the insured, and it may be forwarded along with the notice of cancellation or it may be refunded upon demand of the insured. On the other hand, also, the insured himself may wish to break the contract, but if this is done, the company, upon the surrender of the policy by the insured, is not required to make a pro rata refund of premiums but is required to refund only the excess above the usual short rate for the time the policy already has been in effect. In other words, the fire contract is bilateral as to its cancellation, and in this respect differs from a life insurance policy which is unilateral. That is to say, a life insurance policy may be cancelled by the insured alone, assuming there has been nothing irregular, such as fraud, on the part of the insured in getting the insurance effected.

It may be added, in passing, that in most forms of life insurance, a part of the premium, at least, becomes in time a fund in the hands of the insurance company which is in the nature of a trust fund. It is the usual custom in life insurance to pay the premium on what popularly is known as the "level premium" plan. In other words, the same amount is paid year by year regardless of the actual amount it costs the company to carry the risk in any particular year. This means that a man who becomes insured at age twenty on the all-life plan pays the company while he is relatively young, considerably more premium per year than it costs the company to assume the risk of his dying in any one of these earlier years. The excess above the cost of assuming this risk accumulates as a reserve against the policy to pay the beneficiary when, according to the table of mortality used, the policy may be expected to become a claim against the company. Now this reserve in life insurance is in the nature of a trust fund just as truly as is the reserve in fire insurance; for, if at any time (after about three years) while the policy is in effect, the insured wishes to cancel the contract, the company must pay him the accumulated reserve in cash, if he so desires. The reserve, then, is actually the insured's money held, to all intents and purposes, in trust by the insurance company ordinarily for a definite purpose, namely, to pay the policy when it becomes a claim, but recoverable by the insured earlier if he so desires.

RETURNING now to further consideration of the reserve in fire insurance it may be noted that the reserve (or unearned portion of the original premium paid) is frequently called the "reinsurance reserve." This is an unhappy handle to attach to the term reserve for in an overwhelmingly large proportion of the cases of fire insurance premium payments, the premium is not used to reinsure the risk in some

(*Continued on page* 18)

Photo By P. & A.

Salvage After Smash Ups Will Become a Practical Problem as Aircraft Increase in Number from Year to Year

Development of Aviation Insurance

Reviewing the History of Coverage of Aircraft Hazards in The United States

By STEPHEN B. SWEENEY

Assistant Professor of Insurance
Wharton School of Finance and Commerce
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ARTICLE V

Rate Making Considerations and Aviation Premiums

THE underwriter of any particular aviation risk is faced with a many sided problem in determining the premium to be charged. He has to consider the particular factors of the hazards peculiar to the type of coverage he is issuing. For example, in insuring cargo the facilities for its safe stowage are important. Theft insurance calls for attention to protective features of hangars and landing fields. Probably the most important considerations, however, are those which are general in nature, and are similar to overhead costs in cost accounting, the ones that cannot be definitely allocated or that must be fully considered in almost every instance.

The General Hazard Factors—There are a number of such general considerations in aviation insurance. Various attempts have been made to estimate statistically their relative importance. The most important are: (1) the pilot; (2) the power plant; (3) the airplane, and (4) the territory of operations.

ONE of the main difficulties of arriving at final conclusions as to the most important causes for aviation accidents is that different (and indifferent) statistical bases are used for accident reports. Some classifications merge into others and most of them are not exclusively or inclusively descriptive enough. The following statistics for the United States Army Air Corps for the year 1926 represent a very acceptable classification of accident causes. They are:

	No.	%
Fatal accidents due to error in judgment	11	39.3
Fatal accidents due to power plant failure	10	35.7
Fatal accidents due to structural failure	2	7.1
Fatal accidents due to weather conditions	1	3.6
Fatal accidents due to unavoidable cause (collisions in air while maneuvering)	2	7.1
Fatal accidents due to unknown causes	2	7.1
	28	100

These figures seem to bear out the general impression that careful attention to the pilot's ability and judgment is of utmost importance. The spread or number of cases is admittedly small but this can be partially forgotten in light of the following extensive French statistics. These are based on accidents which occurred in connection with French civil, military or naval activities during the past few years.

Out of 100 accidents:

54 were due to professional faults or faulty piloting;

22 were due to engine trouble;

11 to the condition of the equipment;

5 to bad weather conditions;

8 to miscellaneous or unknown causes.

Out of 100 killed or injured:

62 were killed and 63 injured due to faulty pilotage;

15 were killed and 6 injured due to poor condition of material;

7 were killed and 8 injured due to bad weather conditions;

5 were killed and 19 injured due to engine trouble;

11 were killed and 4 injured due to miscellaneous or unknown causes.

The most recent figures (January-June 1927) for United States miscellaneous flying, as published by the

Department of Commerce are:

Fatal Accidents

Causes:

Error in piloting	13
Power plant failure	3
Weather	2
Structural failure	7
Total	25

Considering the foregoing statistics, gathered from varied enough sources to make them at least indicative of the truth, we see that the underwriters have been correct in the past in obeying their "hunch" that the pilot is properly the first focal point in considering most risks. This explains the fact that almost the first collective activity of the early underwriters was an attempt to classify pilots.

THE degree of hazard connected with any aviation property risks is largely determined by the proven ability of the pilot. While the figures above are concerned with fatalities and injuries they reflect the causes of "crash losses," of fire losses and of cargo losses. The extent to which claims will be paid on third party liability coverage is also largely determined by the pilot's ability. This is likewise true of claims on personal insurance risks.

The power plant is probably the next most important item of interest to the prospective underwriter. While it is true that the type of engine, its age, the regularity and thoroughness of its inspection and its ability to carry the load and to make the journey or journeys to be required of it are all of more immediate moment to the accidental damage underwriter, these facts are also of great interest to the underwriter of any of the other risks.

All of which indicates that the successful aviation underwriter must know the relative dependability of the various makes of engines. The question of the life of an engine is ever a moot one. It is measured in "flying hours". Formerly it was considered necessary to overhaul an engine after every one hundred flying hours (approximately 10,000 miles of flight). The engine in Lindbergh's plane, at the end of his U. S. tour, had been run over 30,000 miles without overhauling and was still going strong. There is little doubt that the 500 flying hours usually alloted an engine (by underwriters in figuring depreciation) must be lengthened in light of the mechanical developments of the last few years.

THE pros and cons of water cooled and of air cooled engines have long been argued. The successful trans-Atlantic flights with Wright Whirlwind air-cooled motors seem to substantiate the present general impression that the days of water-cooled aircraft engines are rapidly passing.

In the last analysis the general aviation underwriter is interested in the statistics of forced landings for each type of engine. The Eastern Division of the United States Air Mail reported that Liberty engine troubles caused forced landings about once in every 400 hours of flying. Some commercial companies report even greater dependability for their various types of engines. In considering any statistics advanced it must be remembered that they are based on a temporary phase of most dynamic conditions. Early attempts to classify engines as to reliability were practically fruitless because of the underwriters' inadequate knowledge of the conditions under which the engines were being used and their inability to control these conditions. This situation is being improved daily by the increasing stability of aircraft transportation.

Experience has dictated that the underwriter consider whether the aircraft is single or multi-engined. The nature of the operating service must be considered. Even after his successful crossing of the Atlantic, Chamberlin feels that only three or possibly four engined planes should be used for such long flights. Fokker F VIIs are reported not only to fly easily with full load on any two of their three engines, but even have power enough for climbing.

IT is argued against twin engines that the reserve power must be uneconomically high, from the pay load standpoint, for sufficient assurance of continued flight on only one engine. This is a purely economic argument from the operator's standpoint. As far as the underwriter is concerned it makes little difference whether *continued flight* is assured. He is solely concerned that the plane remain reasonably manageable after an engine fails so that a safe landing can be made with the plane, cargo or lives in which he is interested.

The airplane itself seems to be the third most important general hazard factor in light of statistics from varied sources. It is usually responsible for accidents classified as "structural failures" or "condition of the equipment."

(*Continued on page 30*)

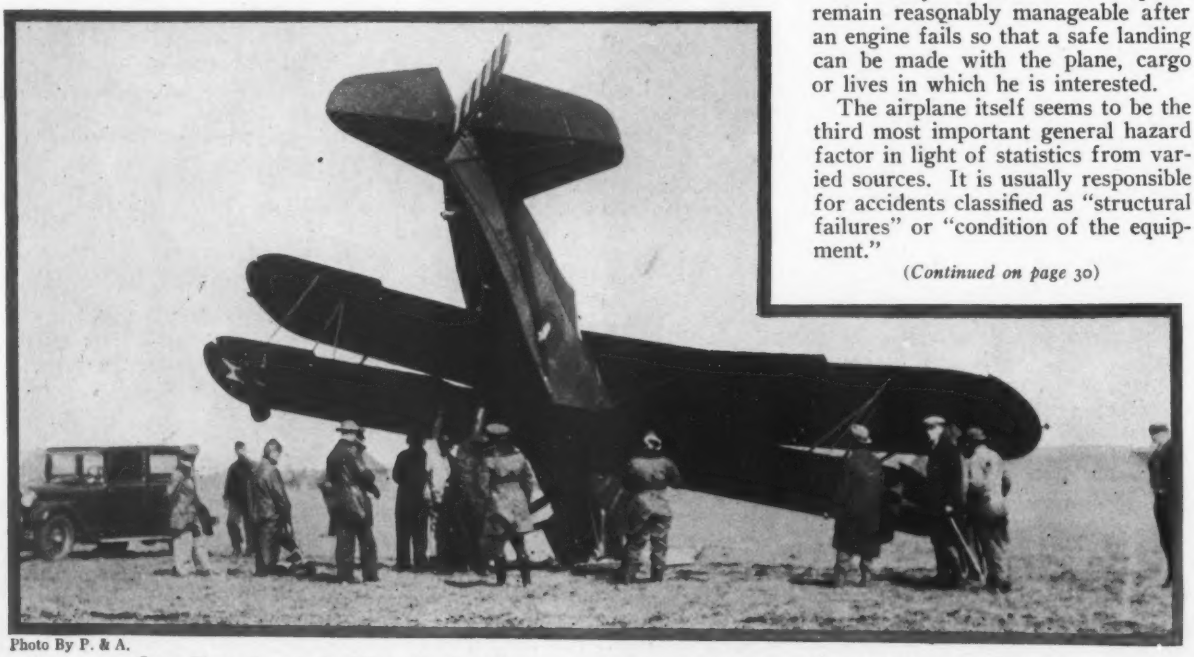

Photo By P. & A.

Some Planes Seem to be Able to Crash to the Ground With Little or No Damage to the Wings or Mechanism

Photo by U. & U.

Airplane View of Albany, New York, Showing the State Capitol Buildings in Left Center

Insurance and the State

Development of Governmental Regulation in America and the Pros and Cons Concerning Its Necessity in Various Lines

By RALPH A. BLANCHARD

Professor of Insurance
Columbia University

INSURANCE has long been an object of special governmental interest. An individual or organization may not write insurance in the United States without governmental authority and the business in all its ramifications is subject to thorough regulation. Ancillary to regulation is the distribution of information by state departments for the guidance of the insurance public. This business, with banking, transportation and public utilities, has been singled out for a control which goes far beyond that exercised in respect of most commercial ventures. Why?

Perhaps the principal reason for governmental regulation is found in the quality of trusteeship which pervades the business. Insurance contracts frequently involve third parties who are primarily or secondarily protected but who have no voice in the selection of the insurer. In all forms of insurance, funds are received in advance which are to be used to discharge obligations arising at more or less remote times in the future. The placing of insurance is only the beginning of the relationship of insurer and insured. It is not enough that the insurer be sound and properly conducted at that time, these qualities must continue. In most other lines of business the cessation of relations between the parties because of inability or unwillingness of one of them to continue is not of so great importance as may be the case if the insurer finds itself in such a position. This is especially true in lines such as life insurance where the contract is normally written for a long period and where the substitution of new insurance becomes increasingly difficult with the passage of time.

ANOTHER sound reason for regulation is the lack of ability of insured or of third-party beneficiaries to protect themselves against fraud or incompetence on the part of the insurer. Insurance is a highly technical business. Its contracts are couched in technical language and, even where the language is non-technical, are to be understood only in the light of customary practice and of court decisions. Methods of operation of companies and statements of their financial standing require analysis by experts if they are to serve prospective insured. It is the function of state insurance officials to see that the insured gets sound protection and just treatment, and that technicalities serve only as instruments to these ends.

That regulation has been successful is universally admitted. Insurance carriers are themselves advocates of many improvements in regulatory practices which involve stricter supervision. Regulation is sometimes adversely criticized in detail but no informed insurance man would choose to return to unregulated competition.

Up to this time regulation has been directed almost entirely to the carriers and their organizations. The agents, brokers and adjusters who come in direct contact with the public have been given scant attention. To be sure, these representatives of in-

surance must be licensed but the requirements for licensing have been of the slightest. There is, however, a distinct trend toward requiring agents and brokers who offer their services to the public to show some evidence of competence.

In the United States each separate state is in sovereign control of insurance within its borders; the federal government has no power of general regulation. This situation results in a wide variety of regulatory practice as well as variation in quality of supervision. Forty-eight separate authorities are regulating a business which is national in scope. While this situation represents a considerable burden and makes for lack of uniformity its ill effects have been to a considerable extent neutralized. The National Convention of Insurance Commissioners, a non-official body of which state insurance officials are members, serves as a clearing house for ideas and as a force for uniformity and better practices. Its recommendations have great weight with the individual states and have resulted in notable improvements. It also serves as a conference body for negotiations with insurance interests and brings to bear the broadest possible consideration of regulatory problems.

WHILE regulation by the state is generally accepted as a part of our governmental fabric, further extension of state activity is a matter of controversy. The program of regulation and dissemination of information leaves initiative in insurance matters almost entirely in private hands. Whether an insurance carrier shall be organized, what varieties of insurance shall be written and to what extent and in what manner an individual or corporation shall obtain protection; these are broad questions to be answered before the government steps in.

But the government may decide that certain forms of insurance should be encouraged, that others should be required or that the burden of cost should be shifted from the shoulders of one group to those of another. It may itself operate as an insurance carrier, insuring its own risks or those of the public.

Only two of these extensions of governmental activity have been generally sanctioned in this country, and these only in respect of a single hazard. It has been generally agreed that our workmen's compensation laws are a proper exercise of legislative authority. These require insurance against the consequences of industrial injuries to workmen and place the burden of cost on the employer as the representative of industry, and, indirectly, of the consuming public. Under these laws, which are now in force in 42 states, seven states have chosen to give a state-managed carrier a monoply of all insurance written, while 10 have created such carriers to write insurance in competition with privately managed carriers. In five cases these latter write all compensation insurance on public employment.

Other examples of the extension of state activity insurance-wise are also found. Massachusetts has aided its Savings Banks Life Insurance system, and requires all owners registering motor vehicles to carry liability insurance. Wisconsin has a state life insurance fund. Certain states and municipalities have created funds for the insurance of public property against fire. Five states have created hail insurance funds, four of which are still in existence. Eight states have organized state funds for the guarantee of bank deposits, six of which remain. During the war the federal government established a life insurance scheme for soldiers and sailors which is still in operation, and insured vessels against war risk until such insurance became unnecessary. The Post Office Department operates a mail insurance fund. Several states have laws providing pensions for teachers, state employees or needy elderly persons. Two states have funds for bonding public officials. Indemnity funds under the Torrens system of registration of titles have been adopted in eighteen states.[1]

Professor McCahan estimates that these various government-operated insurance schemes received $200,000,000 in premiums during the year 1925. This represents approximately five per cent of the amount (some $4,000,000,000) received by private insurers during the same year.

The significance of these facts lies in the problem presented for the future, a problem involving two distinct questions, first, to what extent, if at all, should the government require or encourage insurance, second, to what extent, if at all, should the government itself enter the business of insurance. Each of these questions carries with it the broad problem of private iniative vs. governmental action, and the second the problem of governmental operation of business vs. private operation. All of these questions are open to argument, though much so-called argument on these topics has been little more than the passionate assertion of cherished dogma. It has also often been difficult to determine the part which real or fancied self-interest has played in determining opinions.

WORKMEN'S compensation has been accepted; emergency insurance involving war risk was a practical necessity; provision of pen-

(*Continued on page 29*)

[1]Figures in the foregoing two paragraphs from David McCahan, "State Insurance Funds: Optional and Monopolistic."

Photo by U. & U.

Compulsory Auto Insurance Is a Favorite Subject of Debate

Greenbrier Hotel at White Sulphur Springs Where Mutual Meeting Is in Session

Spring Meeting at White Sulphur

Automotive, Casualty and Fire Groups of American Mutual Alliance Holding Important Conferences

FOR a number of years it has been felt that the Casualty, Automotive and Fire Groups of the American Mutual Alliance have so much in common that a periodic meeting of the three organizations would be very desirable. Yet various practical considerations have interfered with the assembling of such a convention until this spring, when the first annual meeting was called to be held at White Sulphur Springs.

This important gathering is now in progress at the Greenbrier Hotel with Burton S. Flagg, President of the Merrimack Mutual Fire Insurance Company, presiding over the Federation meetings and the other groups headed by P. J. Jacobs, Vice President of the Hardware Mutual Casualty Company, and Homer R. Mitchell, President of the Texas Employers Insurance Association, respective Presidents of the Automotive and Casualty Associations.

The list of subjects to come before the various meetings include many topics of large interest in the Mutual world.

Among those who will take part in the discussions are:

Mr. S. Bruce Black, President, Liberty Mutual Insurance Company.

Mr. Charles E. Hodges, Jr., Vice President, American Mutual Liability Ins. Co.

Mr. James S. Kemper, President, Lumbermens Mutual Casualty Company.

Mr. C. A. L. Purmort, Secretary, Central Manufacturers Mutual Ins. Co.

Mr. Justin Peters, Manager, Pennsylvania Lumbermens Mutual Fire Ins. Co.

Mr. C. M. Hutchinson, Secretary, Millers Mutual Fire Insurance Company of Harrisburg.

Mr. Glen Walker, Secretary, Texas National Mutual Fire Insurance Company.

Mr. C. I. Buxton, Secretary, Minnesota Implement Mutual Fire Ins. Co.

Mr. F. J. Martin, President, Northwestern Mutual Fire Association.

Mr. Frank Bishop, Secretary, Pawtucket Mutual Fire Insurance Company.

Mr. E. S. Nail, President, Lumbermens Mutual Insurance Company.

Mr. Thomas G. McCracken, Secretary, Retail Hardware Mutual Fire Insurance Co.

Mr. G. A. McKinney, Secretary, Millers Mutual Fire Insurance Assn. of Illinois.

Mr. John L. Train, Secretary, Utica Mutual Insurance Company.

Mr. J. J. Fitzgerald, Secretary, Grain Dealers National Mut. Fire Ins. Co.

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The Disadvantage of Being an Outsider

WE are apt to forget that the measure of freedom and independence which the individual enjoys today has been won thru cooperative effort. That is the lesson of history. Men have achieved escape from limitations by accepting limitations; they have conquered the obstacles of environment by combining their strength; they have created greater opportunities for the individual and a larger degree of security in the enjoyment of them by associating themselves in common effort. That is the recognized principle underlying mutual insurance. It is on that ground reasonable and convincing argument is made for its superiority as a means of protection.

And what is true of the value of association for individuals is no less true of its value for groups. Groups of individuals, having like interests, find great advantage in affiliating with one another. It is a different sort of association, constituted on a different basis and with a somewhat different aim, probably, but it brings with it benefits quite as obvious. The wide recognition of this fact has resulted in the development of many organizations of affiliated groups in the United States. They are to be found in practically every vocation, commercial or professional. The prevalence of this form of cooperation is, in itself, a proof that it is worth while. It would not be followed so generally, or persisted in so tenaciously had it not demonstrated its usefulness, had it not repaid those participating in it in far larger measure than any cost it has involved.

OF course there have been always individuals and groups obsessed with the idea that they could "go it alone." The fact is that in-so-far as they may have succeeded in their policy of detached operation they owe much to those who have made such mutual concessions as are necessary for association. They are selfishly reaping the good which has come from joint effort to improve conditions in the field where they labor. In any field of business, for example, such progress as has been made toward achieving a better status under the law has been almost invariably the result of associated effort; that is also true in the matter of raising the standards of business practice, overcoming common obstacles and common ills, and promoting public confidence. To accept all the advantages which may be derived from organized activity, and at the same time to hold aloof and to contribute nothing to the organization which is a general benefactor is scarcely a fair attitude to assume.

But this attitude is not merely unfair to others; it is shortsighted and, in the long run, unprofitable for the group which maintains it. For there are many advantages to be had in association which the outsider cannot enjoy. What he gets is merely the overflow.

What does he lose? What are the disadvantages of his outside position?

First, he loses a sense of self-respect. If he is honest with himself he cannot fail at times to feel the cheapness of his individualistic course. No right-thinking man or group of men likes to take a share of what he or it has had no share in earning.

Second, he loses the goodwill of those who are engaged in the same field of enterprise, and who are working together for the common interest. That is a very big asset in times of difficulty such as all ventures encounter. No man and no group today can afford long to ignore the value of goodwill.

Third, he loses the inspirational effect which comes from cooperation in any cause. He cannot experience the feeling that he is part of a movement which is sweeping forward under the impulse of joint action. He cannot enjoy the confidence which is induced by a combination of strength.

Fourth, he loses much which does not overflow. The association has a common fund of experience at the disposal of its members. There are situations which this or that group has met, and in which it has learned lessons of value that can be of immense help to other groups when they find themselves confronted suddenly by like situations. In the conferences which always characterize such associations the interchange of experience is of the utmost practical worth. Methods for the improvement of trade practices are discussed and developed, each contributing a suggestion, until out of a multitude of councillors there is evolved a way of handling this or that problem which it is most improbable any one of them would have evolved alone.

IN association it is possible to do many things which the individual group would like to do, but finds to be beyond its power. This fact should be so obvious to any mutual insurance group as to need no emphasis. The principle underlying it, as we have said, is the principle which the group is recommending continually to its public. Persistently it reiterates the argument that the individual can obtain a larger measure of security at less cost on the mutual basis than by any other means; that he can provide himself with a protection against risk by participation in the group protective fund which would be utterly beyond his reach as an "outsider." Reasoning thus for the person or firm who needs insurance, is it not both natural and logical to reason a step farther, and to say that the mutual insurance company can obtain for itself a larger measure of advantage, confidence, inspiration, information and wisdom by associating itself with other similar companies in the study of the common field, the interchange of experience and the use of a funded knowledge?

Life Lights Against a Business Background

Why Do Men Fail?

By S. J. DUNCAN-CLARK

A FRIEND came into the office the other day to tell me something pleasant he had heard about my work. Under his arm he carried two books and a bundle of magazines. I reflected happily as he talked that this was rather characteristic of the friends who drop in to see me. Reading friends are usually interesting. They have something in their minds, and viewpoints, and words to express them.

I noticed the title of one of the books. It was "Why Men Fail." It is a recently published book, I think. I have not read it. I am not at all sure that I will. Hazarding a guess, based on what I have gleaned of modern tendencies in the field of literature which deals with human problems, and especially the problems of individual behavior, I rather fancy this book has a good deal to say about heredity, early training and like matters. It probably approaches the subject scientifically, and attempts an analysis of the causes of failure in accord with the experimentation and theorizing of the biological and physchological laboratory. I would not wonder if it has something to say about the mysterious possession of many of us, which some consider a tragic defect and others an actual advantage, the "inferiority complex." And I would be a little surprised if we found no reference in it to dreams. It is one of the queer paradoxes of this essentially practical age that we have gone back to believing in dreams — of course scientifically. We are, in our scientific zeal, not unlike the enterprising packer who could not rest until he had discovered some use for the squeal of the slaughtered pig. Everything must be utilized today.

However, it is manifestly unfair to make guesses about a book, which is probably a most interesting, and, perhaps, a most helpful book. I mention it because it set me to thinking, and if anybody buys it and reads it because I have mentioned it my indebtedness to it for this service will be in measure repaid.

IT set me to thinking about failure —a theme which, in my judgment, may be thought about profitably if it is not thought about too often. Clearly if we are to consider to any purpose why men fail, we must first reach some conclusion as to what constitutes failure. In my observation popular estimates of success and failure are frequently astray.

I knew a man who had risen from the job of driving a one-horse street car, in the days before the trolley, to the presidency of a company which controlled the transportation system, thoroly modernized, of a big American city. He lived in a beautiful home on a fine residential street. He had all the comforts and conveniences which an ample fortune can provide. He was an influence of first importance in the business affairs of his community. His activities were first page news.

But he had a son, in the early years of manhood, whose activities came often to the attention of the newspaper with which I was connected. They did not get on the first page, or on any page—unless by accident. Out of consideration for this prominent citizen they went unprinted. The boy was a worthless, idling, drinking, brawling nuisance.

Had this man made a success or a failure of life? That depends upon whether your conception of success is definable in material or in human values. If you consider the dollar the highest measure of achievement this man was a success. If you consider the making of character a higher measure, he was a failure.

The rapid transit system was a product of his industry, enterprise and business acumen, and, barring the customary imperfections in such systems, a most creditable product from which he was reaping rich material rewards.

But the boy also was his product, biologically and psychologically. He must be held at least as responsible for the boy as for the business; and the making of the boy was a better worth while undertaking than the making of the business, for the one was the making of a life, and the other merely the making of a means for a life.

I KNEW another man. He began his life as a subordinate in the workshops of a great inventor. He rose to the presidency of a big construction company, engaged in power development. He became wealthy. I do not know what may be the enormous aggregate of power which he has released and set to work in the operation of industry, transportation and the lighting of American cities. My imagination falters when it tries to think about it. This man had no son, no child; but he was interested in human values as well as the dollar values of water power and electricity. He began converting the dollar values into human values. He picked up boys here and there who lacked opportunities. He contributed generously to financing a school in which he placed them. He kept in touch with them. His office door was always open to them when they wanted advice. Once a year he gathered the graduates of the school at a dinner and talked to them. In the city where he lives you will find dozens of these boys making good; holding positions which promise preferment; many of them married and raising families. Everyone is a living dividend on his investments, and a source of pride and happiness to him. He is a success, because he has not only built a means for making a life, but he has used it for that purpose. He has made his own life a fine and happy one, and all about him are other lives which he has helped to make. The power which he has generated, the mental power, the moral power in these lives far exceeds the aggregate of electric power in its importance.

HERE then is the test I would make of success—what has a man achieved in the development of human values, in his own life and in the lives of those whom he influences? As a matter of fact the making of dollar values, except as they are converted into human values, has nothing to do with success or failure. The instances I have cited happen to be of men who have created dollar values; but I could cite many more of men who have failed — as the world counts failure—to accumulate wealth, but who have made glorious successes in the building of lives.

Happiness and content come surely only to those who have invested love and labor, the genius of creative imagination and the persistent effort of an expectant patience in the development of human values in the lives of others.

Why do men fail? Because, too often, they let the shadow of self-interest fall across their work; because, too often, they mistake the dollar for the goal of life; they put so much of thought and toil into seeking to accumulate the means for living that they forget to live. That, perhaps, is not a scientific answer to the question, but it is, none-the-less, a true answer.

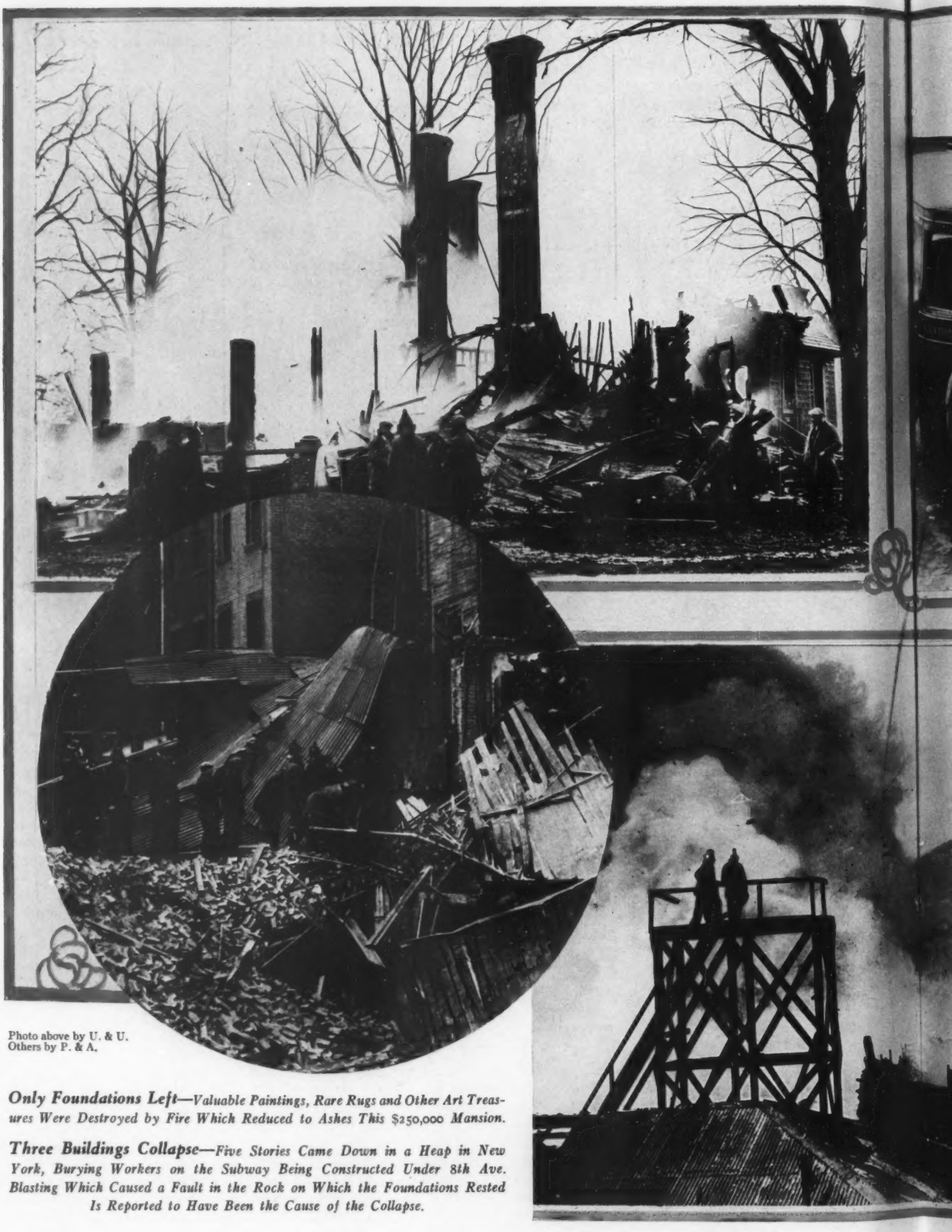


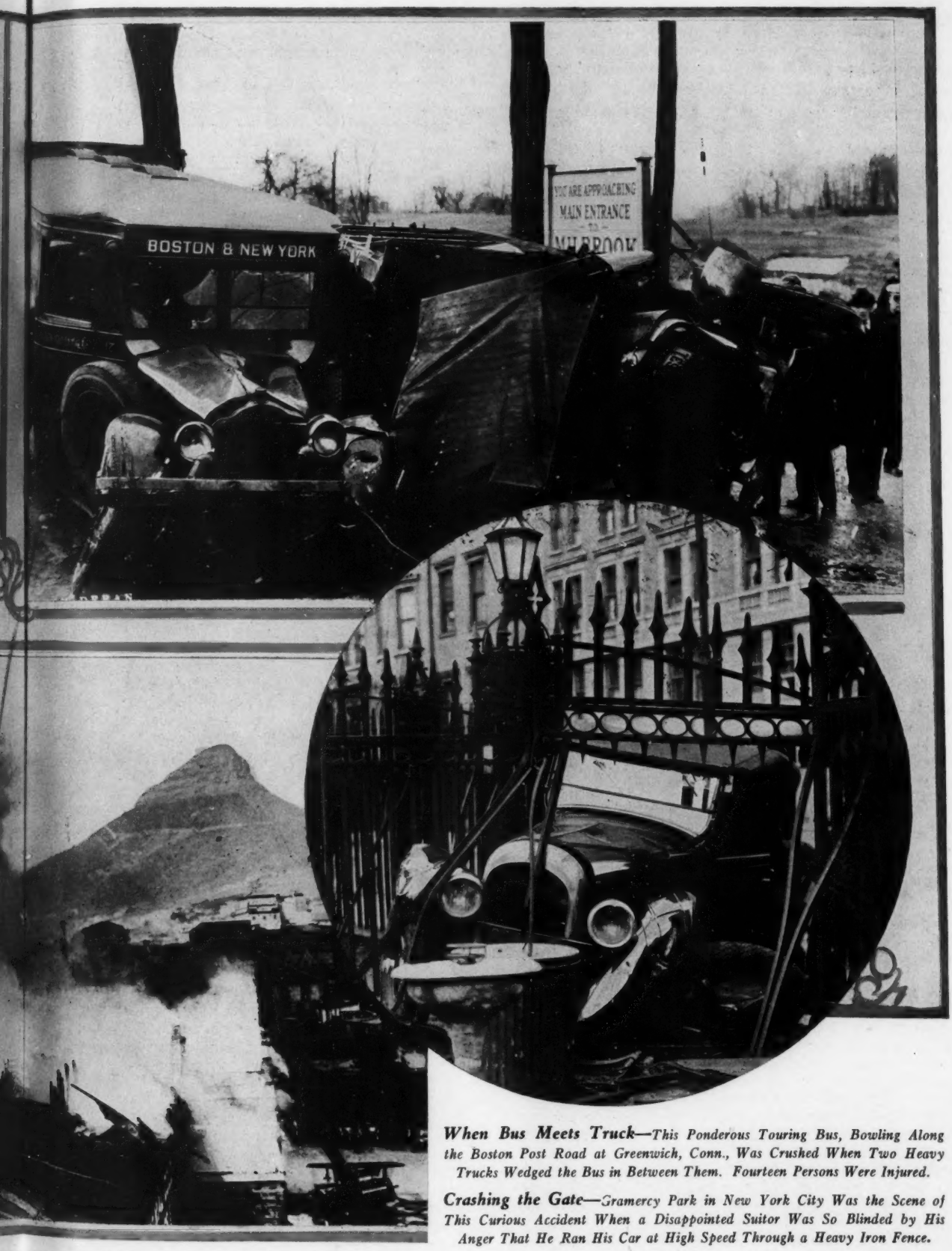
Photo above by U. & U.
Others by P. & A.

Only Foundations Left—*Valuable Paintings, Rare Rugs and Other Art Treasures Were Destroyed by Fire Which Reduced to Ashes This $250,000 Mansion.*

Three Buildings Collapse—*Five Stories Came Down in a Heap in New York, Burying Workers on the Subway Being Constructed Under 8th Ave. Blasting Which Caused a Fault in the Rock on Which the Foundations Rested Is Reported to Have Been the Cause of the Collapse.*

In South Africa—*A Great Conflagration Destroyed th*

MUTUAL INSURANCE IS THE REMED



When Bus Meets Truck—*This Ponderous Touring Bus, Bowling Along the Boston Post Road at Greenwich, Conn., Was Crushed When Two Heavy Trucks Wedged the Bus in Between Them. Fourteen Persons Were Injured.*

Crashing the Gate—*Gramercy Park in New York City Was the Scene of This Curious Accident When a Disappointed Suitor Was So Blinded by His Anger That He Ran His Car at High Speed Through a Heavy Iron Fence.*

Destroyed the Imperial Cold Storage Plant in Cape Province.

EMEDY FOR SUCH LOSSES AS THESE

Premiums and Trust Funds

(*Continued from page 8*)

other company. Even though this were found desirable in certain cases, it is by no means certain that the reinsuring company would assume the risk at the same rate as the original underwriting company. Let us suppose that a company insures for one year a certain risk that we will call X and that six months after the insurance was effected it arranged to reinsure such risk in another company. The reserve against the risk, X, would be fifty per cent of the original premium, but the reinsuring company might agree, perhaps, to assume the risk for less than the reserve; or, on the other hand, it might feel that somewhat more than this amount should be forthcoming. Clearly, the calling of the reserve in fire insurance the reinsurance reserve is a somewhat unfortunate designation. In a very large number of the cases where risks are underwritten by fire insurance companies the risks are not reinsured; and, we repeat, even in those cases where they are reinsured, the unearned premium (or reserve) is not necessarily that exact amount paid by the original underwriting company to another for assuming the risk for the balance of the period that the risk is to be covered by insurance.

It cannot be too strongly emphasized that the reserve (the unearned part of the premiums) in fire insurance and in casualty insurance unquestionably is a liability of the insurance companies and is so carried on their books. We have before us the balance sheet of a fire insurance company with admitted assets in excess of $2,000,000. The liabilities of the company offsetting these assets contain, of course, a number of items, the largest of which is nearly $500,000 of unearned premiums. This method of viewing the reserve by the accounting department of insurance companies as a liability —a fund ever diminishing with the lapse of time with respect to any particular policy—makes it a perfectly safe proposition for the insured to pay his premium in advance of service rendered. If the reserve is properly reckoned and if it actually exists in full amount in accordance with such reckoning, any company that decides to retire from business is able to return to each policy-holder the equitable share of his premium—the share not already earned by the company—or it can use this amount in whole or large part in the case of each policy to arrange for passing over to another company the carrying of the risk for the unexpired portion of the policy.

IT is a common practice for various state governments, in their unrelenting activities in regulating insurance and insurance companies, to legislate with respect to the maintenance of the reserve by the companies under their respective jurisdictions. This is both a recognition of the tremendous importance of the reserve in sound insurance and of the fact that, inasmuch as the reserve is in the nature of a trust fund, it should be carefully regulated by law. Though the laws are by no means uniform in this matter, it may be said, in general, that the various states provide by statute specific methods for calculating the reserve and each insurance company is required to show that it is able to meet its liability to its policyholders in accordance with the prescribed method of calculation. As a matter of practical procedure, it, of course, would be almost out of the question for a large fire insurance company accurately to reckon the reserve on each separate policy, or for a State examiner to undertake to do this himself. Consequently, a short cut method is usually prescribed for grouping the policies together and striking a proper average for estimating the reserve requirement. In some cases the reserve is reckoned by taking one-half of the company's premiums on the business written, as shown by the company's policies, on risks that have not yet expired but have one year or a fraction of one year still to run; and by adding to this, for risks running for a longer period than one year, a pro rata amount of the premiums written.

An interesting illustration of the legal requirements for reckoning the reserve in fire insurance is furnished by the Pennsylvania law with respect to what are known as perpetual policies. Such policies are very unusual and are issued primarily, if not exclusively by an organization known as the Philadelphia Contributionship for Insuring of Houses from Loss by Fire. This organization was formed, it is said, as early as 1752, and received a charter from the Pennsylvania Assembly in 1768. So far as we are aware, this organization, which dates from Colonial times, has continually carried on the business of fire insurance. Briefly, its general plan of business consists in the applicant for insurance depositing cash with the Philadelphia Contributionship, which sum is not to be regarded as a premium payment to the company taking the risk inasmuch as it is a much larger sum than the usual annual premium. The income upon the deposit made by the insured is sufficient theoretically to pay to the company a proper premium for the assumption of the fire risk. The insured is not required to pay anything further into the company, inasmuch, as already intimated, the company receives and keeps for itself year by year in interest upon this deposit a sum large enough to take the place of an annual premium on the amount of the insurance.

THAT this deposit is in the nature of a trust fund is shown by the fact that if either the insured or the insurance company wishes to cancel the policy after the lapse of a few years, the full deposit is returned to the insured. In the event that the insured wishes to cancel the policy during the first few years of its life, a small deduction, amounting from five to ten per cent of the deposit, is retained by the company. This is a very unusual method of carrying on fire insurance business but apparently it is entirely sound, as shown by the continuous existence of this company for over one hundred and fifty years. The Pennsylvania law, with reference to the reckoning of the reserve on such policies as have just been described, defines the reserve as the amount of the deposit made by the insured reduced by a possible surrender charge consisting in the most extreme cases of something like ten per cent of the deposit.

In conclusion, it should now be apparent on the basis of the above discussion, that insurance premiums are analogous to trust funds. They are, to all intents and purposes, deposits made by the insured with an insurance company as a consideration for the latter assuming certain risks of the insured. It is apparent also, both in insurance theory and practice, that the contract between the insurer and the insured as witnessed by the insurance policy, can, in practically all forms of insurance excepting life insurance, be terminated by either party to the contract. It is clear also that, according to the best insurance practice, the insured has an equity in the premium that has been paid, provided the policy has not run its full length of time; and the insurance company in question is required under certain conditions to return to the insured that part of the premium

(*Continued on page 30*)

CHART I
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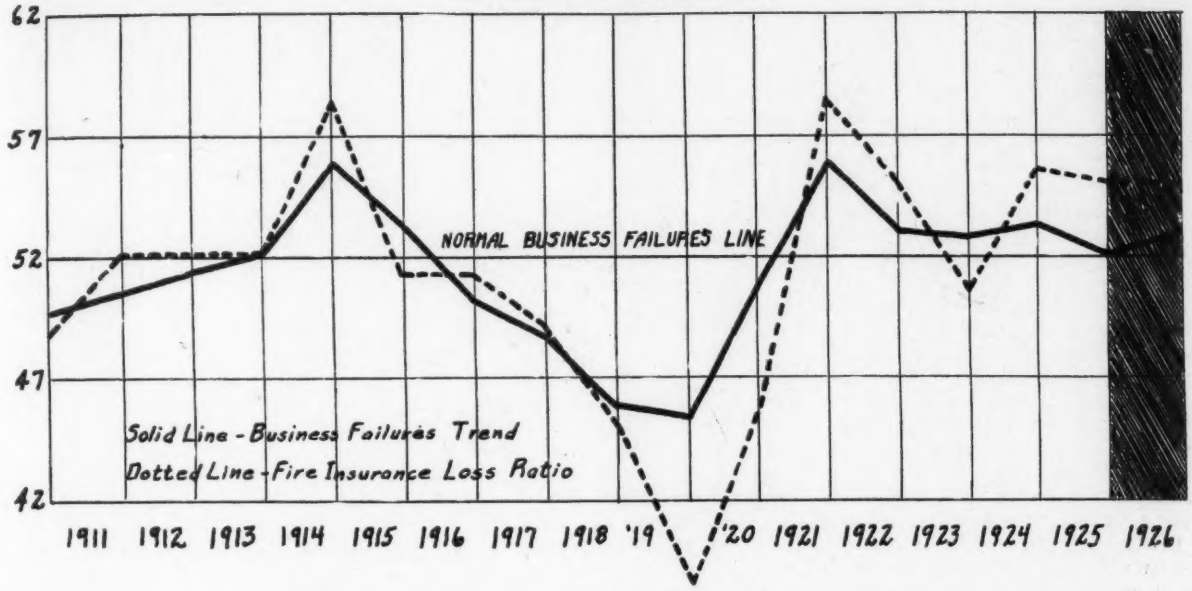
62
57
52
47
42
NORMAL BUSINESS FAILURES LINE
Solid Line - Business Failures Trend
Dotted Line - Fire Insurance Loss Ratio
1911 1912 1913 1914 1915 1916 1917 1918 '19 '20 1921 1922 1923 1924 1925 1926

Fire Losses and the Business Cycle

Relation of the Fire Loss to the Problems of Industry With Interesting Figures Bearing on Conflagrations in Panic Years

By F. E. WOLFE

Professor of Insurance
University of Illinois

THE president of the National Board of Fire Underwriters in his 1927 address referred to fire waste as "one of the most serious economic burdens the American people has to carry. Notwithstanding the most strenuous and prolonged efforts of the fire insurance companies, in cooperation with other public-spirited agencies and individuals, to spread the gospel of fire waste prevention, and notwithstanding also the remarkable achievements of fire prevention engineering, the country's annual fire losses not only do not decline, but display an apparently irresistible tendency to increase." Fire losses are now conceived of as if they were an epidemic disease to be approached with the scientific viewpoint of applying preventive methods.

Statistics show that from 1915 to 1926, inclusive, $5,048,600,881 worth of property was destroyed by fire in the United States. The annual fire loss during the last seven years has averaged more than a half billion dollars, and for nine years the loss has shown an annual increase. In the period, 1912-1922, the United States showed a gain in population of 17 per cent, and a gain in per capita fire loss of 116 per cent. The fire loss for 1926 was $560,548,624, representing on the average a loss of $1,065 a minute, or $1,500,000 of our produced wealth each day during the year. This does not include the cost of fire departments and water supplies for fire protection, an additional burden, which is estimated as equal to the annual fire loss. Ten thousand lives are estimated to have been lost by fire in 1926, and $26,900,000 damage by forest fires. A per capita loss of property by fire in the United States of $5.00 compares with a per capita loss of 90 cents for Great Britain, on the basis of estimated figures for the population of each country in 1926. In 1923 the loss in France was only 49 cents per person, in Germany, 28 cents, in Italy and in Australia, 25 cents, in Switzerland, 15 cents, and 11 cents in Holland. Our fire losses have for many years been on the average about ten times as great per person as those of all Europe. The cost of fire departments in American cities is also several times as great as in European cities.

THE annual half-billion dollar loss means the wiping out of so much capital in buildings and contents, from 60 per cent to 85 per cent of whose destruction is reasonably regarded as preventable. Insurance money paid by a company is often looked upon as if it were a cure of the economic injury, but it is rather the measure of the tax laid upon all insured persons in the community. Insurance rates bear a direct relation to the amount of fire loss, and furnish 90 per cent of the income of companies, the source for the payment of losses. Complaints about the burden of fire insurance premiums are heard in the large towns and cities, and strict regulation of the insurance companies is provided by the States. The only method promising any lasting abatement of the insurance tax or rate, however, is the reduction of fire loss both by individual property owners, by insurance companies, and by other private and public organized agencies. The factory mutuals of New England have operated at low cost by making the prevention of loss their main objective, and likewise the National Fire Protection Association organized in 1895 to maintain among all persons interested in fire protection uniform standards of safety against fires.

Despite the obvious reasonableness of fire prevention and of public efforts to make it effective, indifference, carelessness, and irresponsibil-

ity on the part of individuals persist and cause the waste to show little tendency to decline. But the problem of prevention in this country is hardly comparable with that of the older countries of Europe, where conditions are in many respects different. It is necessary in any fair analysis of the American fire waste situation to consider several different factors that are responsible for the large per capita losses here sustained. Thus, the population per square mile in European countries is denser than in this country, hence whatever losses occur will be smaller on a per capita basis. Types and materials of building construction are radically different there, as the buildings are usually of solid stone or brick, and much lower, smaller in area, and have small windows. This contrasts with the entirely wooden structures characteristic of this pioneer country with its ample supplies of wood. The rapid growth of cities and towns in this country brought the danger of serious conflagrations in the absence of strictly enforced and adequate building codes, as contrasted with building regulations of long standing in old European cities and towns. It is the rule there for officers of the law to proceed upon the occurrence of a fire to fix full legal responsibility upon any person whose negligence brought about the loss.

In considering the amount of total losses by fire it is to be borne in mind that property values—buildings and commodities, furnishings and contents—have during the past ten years since 1918 been stated in terms of a dollar depreciated in its purchasing power from one-third to one-half. Comparatively, the actual increase in annual fire losses has therefore been much less than the absolute figures indicate. It is also true that the aggregate value of insurable property in the country is steadily increasing, and although the absolute amount of the fire losses is rising, the proportion which this sum-total of losses bears to the total value of existing property has been rather steadily decreasing from year to year. Thus in 1921, if the fire losses reported for buildings alone be assumed as 60 per cent of the total fire claims, the loss on buildings was nine per cent of the $8,069,000,000 of new construction, while in 1926 they constituted only 4.8 per cent of the $6,870,000,000 new construction added to building values.[1] These figures indicate a marked improvement in the country's burning rate in its relation to created wealth. Despite these considerations, the absolute amount of loss annually sustained remains an unnecessary and costly burden.

ANOTHER phase of the fire waste problem is presented by the frequent observation that "there is a well-defined tendency for fire losses to increase in periods of depression and to diminish in periods of prosperity."[2] Statistics of fire insurance losses and of business failures have tended to vary in the same direction. Thus, one large insurance company finds by superimposing a curve of the ratio of insurance losses to premium income upon the number of business failures curve that every change in direction of the one curve has been accompanied by a similar change in the other with one minor exception during the period, 1911-1926. (See Chart I.) The inference has been drawn from this that fire loss is a function of the state of business, and that the loss experience of insurance companies coincides in an inverse sense with the so-called business cycle. Economists use the term "cycle" to describe a recurrence of different phases in business activity which lends itself to measurement. There is no implication of periodicity for the time intervals between depressions are far from regular.[3]

Chart II, "Fire Losses and Business," shows that usually over the past 20 years fire losses have increased when generally business in the country is depressed.

THIS condition is without doubt in some unknown degree due to moral hazard, including arson, in-

(*Continued on page 27*)

[1] "The Spectator," July 28, 1927, p. 13. Citation of figures of F. W. Dodge Company, by National Terra Cotta Society.

[2] A. Motelle, "Financial Machinery of Fire Insurance Companies," "The Annalist," February 26, 1926, pp. 307-308; A. J. Wilson, "The Business of Insurance," (1904), p. 131; Babson's Reports, Barometer Letter, February 1, 1927, p. 4; A. R. Marsh, "Insurance Losses and the Business Cycle," "The Economic World," November 28, 1925, p. 774.

[3] W. C. Mitchell, "Business Cycles," (1927), pp. 377, 378.

CHART II
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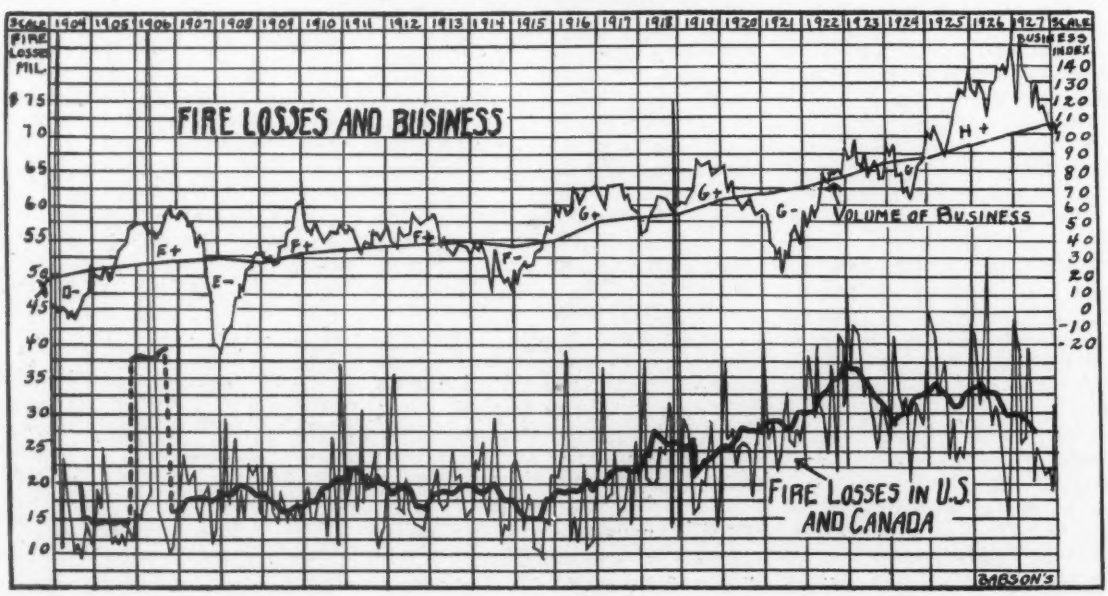


You Can Write Resultful Letters

If You Haven't Been Doing It Maybe This Article Will Give You the Reason and the Remedy

YOU may remember that the third article of this series on How To Sell Mutual Insurance, which was in the last number of The Journal, ended up with the statement that the NEXT article in the series would deal with getting good prospects and real business BY MAIL.

Maybe, when you read that statement, you felt as you did when you saw your FIRST automobile, or "horseless carriage" as they were called in those days.

Most people were ready to swear then that a buggy *couldn't* be made to go without a horse and most insurance men are still ready to swear today that insurance sales can't be made without a *salesman.*

Well, a little earlier in that third article, the author pointed out that there's no sense in telling people *how* to do a thing unless they BELIEVE that it *can* be done; so it seems sensible to introduce a little PROOF right here that *mutual insurance can be sold by mail.*

HERE, then, is an exact copy of a letter from Mr. C. S. Schultz, Vice-President and Secretary of the Union Mutual Casualty (and Life) Company, of Des Moines, Iowa, written to the author of these articles on the subject of mail-sales made for the Union Mutual by letters prepared by the same person who proposes to go ahead and tell YOU exactly how to do it, after you have begun to BELIEVE that it really *can* be done:

By CHARLES HENRY MACKINTOSH

My dear Mr. Mackintosh:

During the past two years this company has been making excellent use of your Advertising and Sales Service—specifically along Direct Mail Sales letter lines.

It will be of especial interest to you to know that over One Hundred Thousand Dollars of our annual income is directly traceable to the effective and profitable results achieved with sales letters you have prepared for us; this business of $100,000.00 having been produced through the exclusive use of your Direct Mail Sales letters without follow-up by soliciting representatives.

Insurance selling is generally recognized as requiring the highest type of specialty salesmanship, and the building of a business of $100,000.00 in two years through the sole use of Mackintosh Sales Letter Service, is in my opinion nothing short of phenomenal.

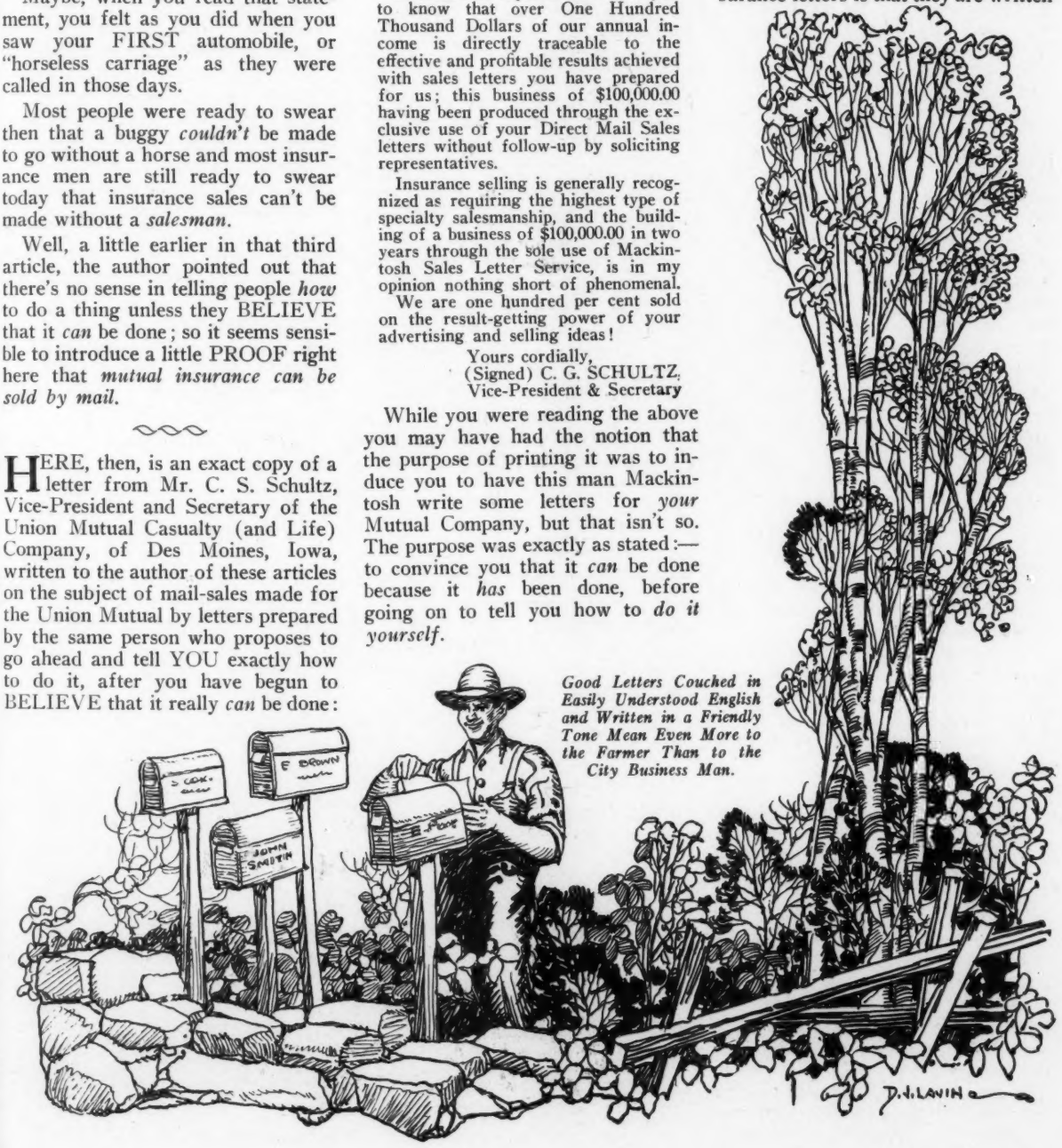
We are one hundred per cent sold on the result-getting power of your advertising and selling ideas!

Yours cordially,
(Signed) C. G. SCHULTZ,
Vice-President & Secretary

While you were reading the above you may have had the notion that the purpose of printing it was to induce you to have this man Mackintosh write some letters for *your* Mutual Company, but that isn't so. The purpose was exactly as stated:—to convince you that it *can* be done because it *has* been done, before going on to tell you how to *do it yourself.*

YOU can write better letters for your business to your prospects than I could, if you will only believe it and go about it in the right way, because you *know* your business and your prospects better than any outsider knows 'em.

The trouble with most mutual insurance letters is that they are written



Good Letters Couched in Easily Understood English and Written in a Friendly Tone Mean Even More to the Farmer Than to the City Business Man.

by people who know a lot about mutual insurance and plenty about their own prospects, but don't know how to bring the two *together* through the medium of the mails.

Even the best of mutual insurance *salesmen* usually makes a mess of trying to sell by mail. That's largely due to the fact that in his personal salesmanship he has been in the habit of relying largely upon the inspiration of the moment for what he says to his prospect.

Maybe his tongue is started wagging by the bulk of the prospect's barn, or by the beauty of his children; or maybe it's something the prospect *says* that gives him his starting point.

When he sits down at a dead desk in an uninspiring office and gets ready to *write* to the same kind of prospects he has been calling on maybe for years, his brain is an absolute blank. There's no inspiration in the blotter, or in his fountain-pen, or in the blank wall across from him. He sits and chews up the end of a good cigar for a few minutes, waiting for inspiration to come to him out of the air, but there seems to be nothing in the air except a little cigar-smoke and coal-dust added to its ordinary content of oxygen, hydrogen, nitrogen and the like.

Eventually, he either kicks over the cuspidor and confesses that "they *can't* be sold by mail"; or else he plunges ahead to "write a letter" anyhow, and that's where he makes his most fatal mistake.

To sell mutual insurance by mail one doesn't "write a letter": one merely *talks* on paper, after first conjuring up a mental image of the average actual prospect.

"Writing a letter" is fatal because nine hundred and ninety-nine men out of a thousand instinctively write business letters in a language which is as stiff and formal as a funeral oration.

THE very fellow who would be likely to greet a prospect in person with some such friendly and conversational comment as:—"You surely have a fine herd of Jerseys, and I'll bet you've got the biggest and finest barn in Blank County!" will be likely to lead off his letter with some such frozen formality as the following:—"The Blank Mutual Insurance Company is one of the best and strongest institutions of its kind in the country!"

Worse than that, if he happens to have received a real live *inquiry* from a prospect, to which he is going to reply by mail, he will almost certainly start off by writing:—"Beg to acknowledge with thanks your valued inquiry of the 15th., and in response to same will state . . ." Then he'll probably go on to add the above sentence about the Blank Mutual Insurance Company.

Well, what's *wrong* with that picture?

You can *see* what's wrong yourself, if you'll just imagine that same salesman walking into the barnyard of that same prospect, clicking his heels together, and starting to *say*: "Beg to acknowledge . . ." and all the rest of that rot!

No sane man *talks* that way. Why should any sane man *write* that way?

A letter is merely a convenient substitute for a personal talk, and there isn't one good reason why it shouldn't say almost exactly what the writer would have said if he had called in person instead of sending a letter.

"But . . ." the man with the old-fashioned letter-writing complex may exclaim in amazed bewilderment, "one can't start a *letter* with anything like that conversation you suggested a few paragraphs ahead! It isn't *done!* Imagine a letter starting off: 'You surely have a fine herd of Jerseys, etc.,'—it wouldn't be businesslike!"

Anything is businesslike that looks like *business*, and if the conversational style leads to business in a personal interview, why shouldn't it lead to business in a personal letter?

—The answer is that it *does*. Turn back and re-read the letter from the Union Mutual of Des Moines, if you doubt that fact.

ABSOLUTELY all I did to earn that letter was to take the *ideas* supplied by the officers and salesmen of the Company and express them in the same simple, straight-forward, common language in which this article is written; and there isn't a reason in the world why anyone couldn't do the same if only he will first wipe out of his mind the idea that there's a *special* language for the writing of business letters.

WRITE AS YOU WOULD TALK! —That's the recipe for real results in going after good prospects for mutual insurance by mail. If you can *talk* 'em into signing up, you can *write* 'em into signing up, and there is no other "if" about it.

"But"—an occasional reader may protest—"I ain't got no literary style. I talk like my neighbors, and none of us puts on any dog about it." FINE! —That's the way to WRITE, too; just as you and your neighbors TALK.

One of the biggest mail-order businesses in farm implements was built up by a fellow who sent out letters that sounded exactly like casual conversation over a farm gate.

They got the business for FOUR reasons:—

1. They were *interesting.*
2. They were *understandable.*
3. They were *believable.*
4. They made it *easy to ACT,* by

(*Continued on page 27*)

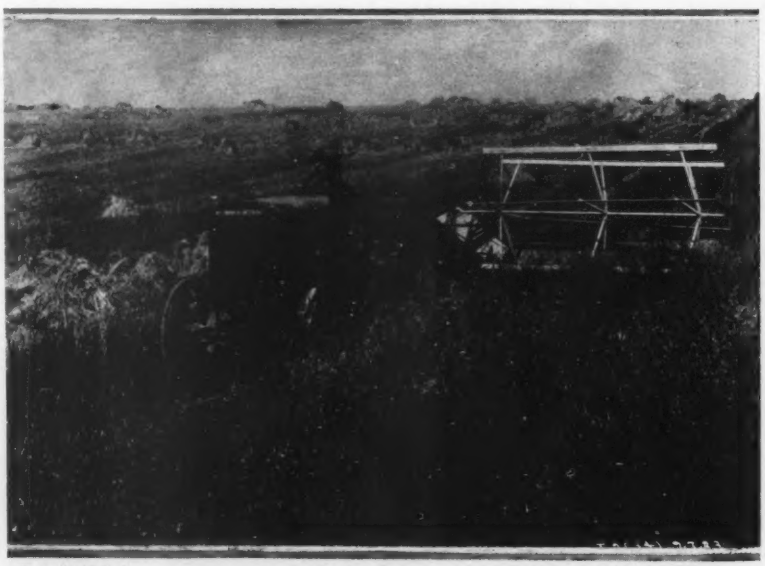


Photo by P. & A.

After All, a Bumper Crop Is What Interests the Farmer Most

200,000 Eye Accidents Annually

What Industry Is Doing to Lessen the Risks to Which Workers are Exposed in Various Lines of Business

By J. PAUL ATWOOD

THERE is no substitute for an eye. Of all non-fatal, industrial accidents those involving injury to the eye are necessarily the most serious. Only the inadequacy of available information and the paucity of statistical data have stood in the way of a more complete recognition of the seriousness of the industrial eye hazard. The figures that are available, however, are sufficiently impressive to startle the apathetic manufacturer who is doing little or nothing to reduce the hazard.

In New York state alone, $1,700,000 was paid out in compensation for eye accidents during the year ending July 1, 1927. An eye, in New York, is worth $3,300 to the disabled employee; total loss of eyesight is valued at $5,000. In Pennsylvania the compensation for eye injuries has for many years exceeded a million dollars a year.

Of the 100,000 totally blind men, women and children in the United States, 15,000 are "industrially blind." And there is a much larger group whose vision has been so impaired by the eye hazards of industry that they have become handicapped for life.

According to an estimate made by the National Safety Council, industrial activities result in 200,000 eye "accidents" annually or three every minute for every twenty-four hours of the 365 days of the year. Fortunately, the majority of the injuries are not permanent.

There is no industry without an eye hazard. Even in occupations which would ordinarily be considered non-hazardous, the proportion of eye injuries is surprisingly high. Of 1,049 eye accidents for which compensation was paid by the Travelers Insurance Company, 52 were classified under the general heading "Merchandising," 12 under "Textile Industries" and 18 under "Farming." The loss of these 82 eyes in three and a half years' experience of just one insurance company indicates that there is no such thing as a really non-hazardous occupation.

TODAY, however, the most serious hazard is apt to exist in the comparatively small plant. The large organization has learned its lesson through bitter experience and has taken positive steps to reduce the hazard. But in the small shop, where serious accidents are infrequent occurrences, both supervisors and employees often get into the habit of looking upon every serious accident as a "freak accident," one that "would not happen again in a hundred years." Where there is such an attitude, little or no effort is made to prevent the recurrence of that particular type of accident. But when the tens of thousands of small plants and the hundreds of "non-hazardous" large plants are considered in the aggregate, the so-called freak or rare eye "accident" blinds a man, woman, or child somewhere in the United States every day in the year.

But the majority of eye injuries are not due to accidents in any correct use of the term. They are not accidental; they are inevitable considering the degree, or the lack of, safety measures employed.

Many years experience in a number of large plants has demonstrated that the eye hazard can be materially reduced by a proper and intelligent application of safety measures. The safety activities throughout the plants of the United States Steel Corporation have resulted in nearly a 60% reduction of eye accidents in the past ten years, and the eyes of 6300 men have been saved. In some individual plants of the corporation the reduction in eye accidents over the same period of time has been as high as 92%. A safety campaign, inaugurated in 1917 in the United Alloy Steel Corporation, Canton, Ohio, resulted in a reduction in one year of 64.8% in the number of days lost due to eye injuries. The American Car and Foundry Company has succeeded in reducing the eye hazard by 75% and the American Steel Foundries by 85%.

Type of Mask Used to Protect Workers in Welding Operations

AN excellent example of the success of an intelligently instituted and effectively executed safety program is afforded by the Pullman Car Company, at Pullman, Illinois. For a number of years the company's records showed an average of eight eyes lost and $12,000 paid as compensation for eye injuries each year. The great majority of these accidents

*A large portion of the material included in this article has been secured though the cooperation of the National Committee for the Prevention of Blindness and the Eyesight Conservation Council to which the author wishes to express his gratitude.

were caused by flying rivets or rivet heads. The safety program was then adopted and it provided, among other things, for masks for all men exposed to this hazard and for screens placed around the entire riveting operation. In the year immediately following the introduction of the safety program, the company succeeded in entirely eliminating eye accidents.

But the safety campaign can not be borrowed from another plant. It has to be developed to meet the needs of the particular problem to which it is to be applied. How small tool control served one company is indicated by H. Walter Forster, vice-president of the Independent Bureau, Philadelphia:

"A certain large corporation employing 3,000 men in one plant had several employees lose eyes through flying portion of tools, and the management admitted that the condition of tools generally was bad. A competent safety engineer submitted a report as to a method of controlling the hazard, but the management decided that the proposition was not feasible, or at any rate not advisable. However, after two more men had lost an eye each, it seemed necessary to do something. Then the engineering report, after modifications were made by the local plant men, was put into effect.

"There was absolute control of every tool at the beginning and at the end of every shift. Immediate dressing was given every mushroomed head. Edged tools had real edges. Helves and handles were safely attached and straight. Every tool was made safe and efficient. An enormous number of tools, many of them forgotten, were collected from all portions of the plant. The time certain men started to work and left was for the first time definitely known. And generally there was sufficient increase in efficiency to pay for the entire cost of the tool control. For a period of over a year after this plan of control was put into effect, no eye injuries took place. The accident prevention results were the by-products of efficiency. To show the completeness of control, I may say that the engineer who in the first instance examined tools reported that he looked over some two thousand articles almost all of which were defective or sub-standard. At a subsequent examination he saw almost an equal number of tools and he found only four which were not in perfect condition. Here was a concrete case where the management for a long time had been saying to foremen and workers 'do not use defective tools.' The educational attack got no results; engineering analysis and modern plant control methods did."

THE R. K. LeBlong Machine Tool Company of Cincinnati, Ohio, found that a different solution met the particular problem presented by its plant. By the installation of an eye room, the company reduced eye cases from 5,000 to 900 and practically eliminated compensation charges. The eye room is simply a small room the inside of which is painted black. It contains a shelf with bottles of the different eye solutions, an adjustable chair, and special overhead illumination. In an article in Industrial Management, Sanford De Hart, Director of the Safety and Hospital Department of the company says:

"The benefits accruing from such an eye room are many, among which might be mentioned the privacy it affords for the extraction of foreign bodies, and the very excellent opportunity to impress upon the patient the importance of wearing goggles. I know of no more opportune time to talk goggles to a workman, and of no more receptive auditor than a man who has just had a piece of emery extracted from his eye. The decrease in the number of men reporting to our hospital for this type of injury is indicative of the soundness of this form of safety education."

Goggles and head protectors are important factors in the reduction of the industrial eyesight hazard, but they are by no means the only factors with which the safety engineer may operate. The related fields of guarding and engineering revision present vast unexplored areas, the cultivation of which ought inevitably lead to a reduction of industrial accidents.

Engineering revision is defined by Louis Resnick and Lewis N. Carris as "the changing of a manufacturing process, the re-designing of a machine or tool, the re-arranging of the physical equipment of a plant, or the changing of the method of work in any other way for the purpose of preventing accidents. Engineering revision aims at the elimination of the underlying cause of the accident rather than the covering up of danger points.

"One of the most striking and most easily understood forms of engineering revision is the automatic machine. This reduces the number of men necessary to turn out any given amount of work, thereby reducing the number of men exposed to accident hazards. It is, moreover, usually easier to guard the point of operation of an automatic machine than of a hand-fed or hand-operated machine."

WE have already seen how the control of hand tools reduced the eyesight hazard in one plant. In that particular case the management undertook the revision as a matter of plant policy and economy, and the highly desirable and praiseworthy humanitarian results followed naturally but incidentally. In many instances, the situation is entirely reversed and an economy springs incidentally from a revision undertaken to reduce hazard. Thus, C. P. Tolman, while studying the possibility of eliminating dust and other hazards in the manufacture of white lead, revised a generation old manufacturing process and thereby not only reduced accident and health hazards, but at the same time lessened the plant investment.

Much remains to be accomplished along this line and an analysis of the technical papers prepared by safety engineers indicates that an energetic start has been made and that the problem is being attacked at its very roots. A few years ago, the majority of safety engineers were more concerned with safety education than with engineering revision. This highly commendable work has produced standard educational methods and now the field is cleared for the equally important revision of the machine.

Mechanical guarding is another and effective method of reducing the eyesight hazard. The installation of

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CLAIMS EXECUTIVE
CONFERENCE
at
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DETROIT, MICH.
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1928

trial chip deflectors in the brass bushing department of the Buick Motor Company's plants at Flint, Mich., brought such satisfactory results that they were placed on all bushing machines. One type of deflector, which is merely a glass window attached to the machine, turns the chips away from the operator into a receptacle below. Another type is made of a small piece of metal which fits over the cutting tool.

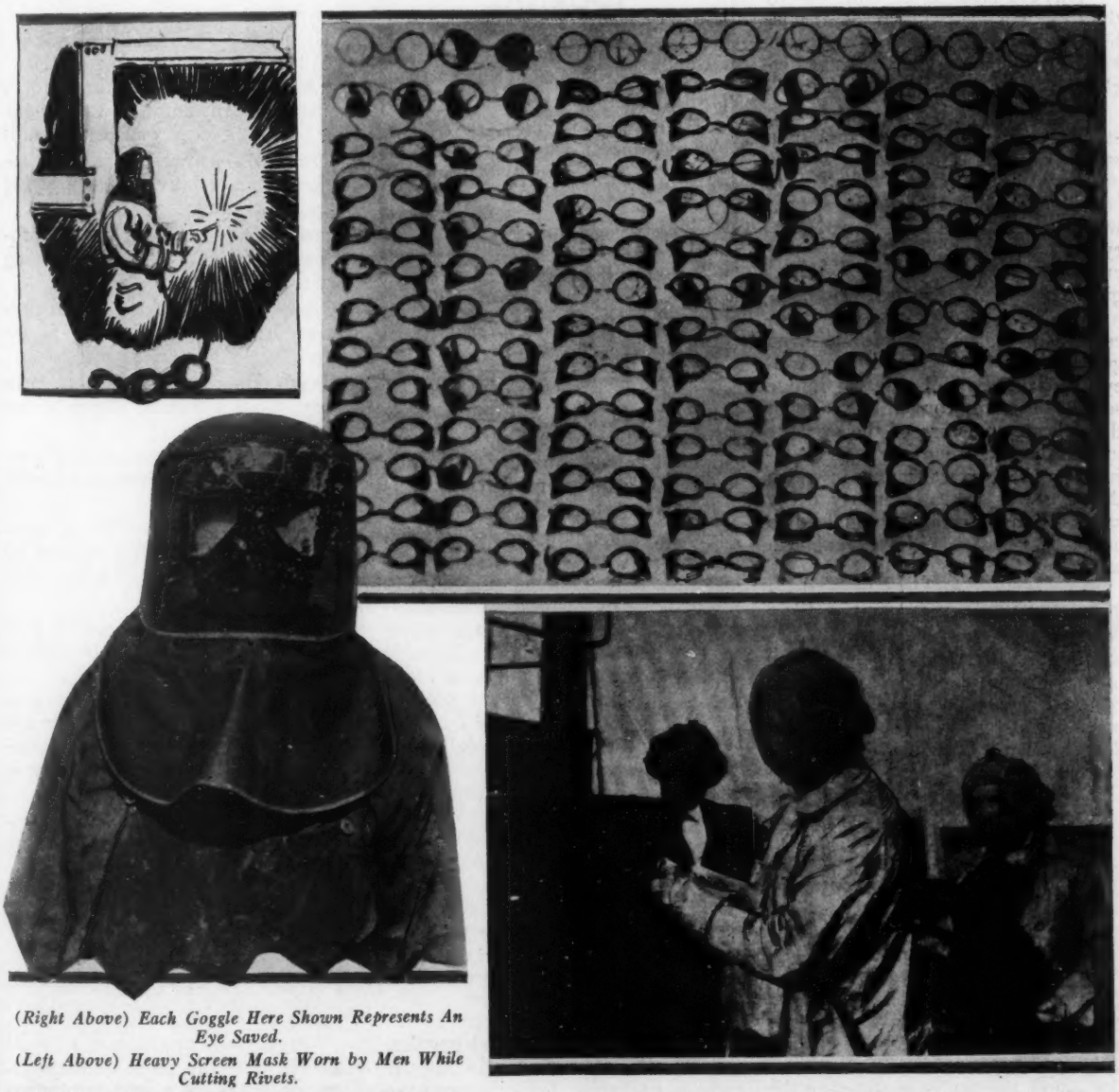
Where there is a danger of relatively large objects flying some distance, substantially built screens should be placed around the entire operation to afford a protection both to workmen and to passerby. In some plants a catcher consisting of a wire basket attached to the end of a long handle held by the cutter's helper is used to catch rivet heads. In many plants the old practice of using brooms for this purpose is still permitted. These are very uncertain means of prevention and, sooner or later, result in serious accidents.

However, there are many accident hazards that cannot be eliminated by modifying the machine. The United States Steel Corporation, for instance, in an analysis of more than a quarter million accidents in its numerous plants found that hand labor was responsible for 44.04% or nearly one-half of all accidents.

"The majority of these accidents," the Steel Corporation's report says, "could not possibly have been prevented by the use of mechanical safety devices or appliances, but were due to carelessness and the failure of workmen to observe simply precautions conducive to safety."

MUCH of the educational work in connection with the reduction of industrial eyesight hazard must necessarily be directed toward inculcating into employees the thought that goggles must be worn. A number of plants are so stringent in enforcing the rule that employees who fail to wear goggles are instantly dismissed. Others conduct intensive safety campaigns at stated intervals and follow through the rest of the year with continual reminders of the

(*Continued on page 26*)



(Right Above) Each Goggle Here Shown Represents An Eye Saved.

(Left Above) Heavy Screen Mask Worn by Men While Cutting Rivets.

(Right Above) Hood to Ward Off Sparks and Spatters.

Courtesy National Committee For Prevention of Blindness

Eyesight Accidents

(*Continued from page 25*)

need for safety and the necessity for using goggles or head protectors.

But the most difficult educational problem with which the safety engineer has to deal arises from the stubborn employee who refuses to wear goggles. It calls for the uttermost ingenuity and tact, and sometimes gruesome methods have to be employed to bring the recalcitant employee into line. In one plant, where a number of valuable, but stubborn workmen had persistently refused to wear goggles, the safety engineer hung up on the bulletin board a small bottle of alcohol containing a human eye with this simple legend:

"This eye belongs to John —— of the Chipping Department but it does him no good now. He lost it because he did not believe in wearing goggles."

This same safety engineer constantly carries about with him in a small box in his pocket, half of a preserved human eye in which there is still embedded the steel fragment which necessitated its removal. The eye has been cut so as to afford a cross-section view. This safety engineer has found that men who ordinarily declined to listen to any discussion of the necessity for wearing goggles could, with the preserved eye as bait, easily be drawn into a serious private conversation about the delicate structure of the eye, the irreparable nature of many eye injuries, and the exact manner in which this eye was lost. In nearly every case this conversation would lead to a request from a hitherto stubborn workman for a pair of goggles.

CONSIDERABLE of the objection to the use of goggles is due to the defective vision of the objecting employee. Goggles may be as comfortable and as safe as human ingenuity can make them, but if they do not correct defective vision, their function is, at best, but partially fulfilled, and in many instances the employee will actually be unable to wear them. In one plant, a foreman came to the safety engineer and in a friendly way said very frankly that he could not wear goggles. He had honestly tried to do so, but they were "simply driving him crazy." The safety engineer without further questioning asked him if he knew a good oculist. The man named one and arrangements were made at once to have his eyes examined. Within a few hours, the oculist reported to the safety engineer that the foreman was nearly blind in one eye and that sight was failing in the other. With proper corrective lenses, this foreman was not only willing but glad to wear goggles. He enjoyed a greater feeling of security and undoubtedly was saved from total blindness.

Goggles with prescription lenses serve a double purpose; they tend to correct defective vision of employees thereby incidentally eliminating a great cause of inefficiency and they make it possible for many employees who could not otherwise wear goggles in comfort to wear them without difficulty and, in fact, wtih enthusiasm. In many of the larger plants, every employee is given an eye examination before the goggles are distributed.

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Frank Morris, a well-known safety engineer, is the author of the following terse statement of how to overcome the most common objections to the wearing of goggles: "The workman says goggles make his nose sore; we give him a pair with an adjustable bridge. They hurt his ears; we give him goggles that are kept in position by an elastic band. They hurt his eyes; we send him to an oculist and give him goggles with especially ground or corrective lenses. The goggles are cold; we provide the kind with leather or rubber cushions between the metal frames and the face. They are hot; the leather or rubber insulated goggles obviates this complaint also. They get steamy; rub them with vaseline or glycerine pencil. They carry disease germs; have each pair sterilized."

THERE are goggles and goggles. The cumbersome all-purpose goggles of five or ten years ago are seldom used today. Certain types of goggles which provide complete protection against splashing chemicals are almost worthless as a protection against flying chips of steel.

The United States Bureau of Standards with the assistance of an advisory committee made up of representatives of employers, employees, state industrial commissions, and the manufacturers of goggles, developed a code for the use of goggles and head protectors. Later the code was revised and approved as "American Standard" by the American Engineering Standards Committee. The code is known as the National Safety Code for the Protection of the Heads and Eyes of Industrial Workers and may be obtained at a cost of ten cents for the government printing office at Washington, D. C.

The Code divides the head and eyesight hazard into a number of classifications and outlines the proper method of protection in each class. The various groups enumerated are:

Group A.—Processes where protection from relatively large flying objects is required.

Group B.—Processes where protection from dust and small flying particles is required.

Group C.—Operations where protection from dust and wind is required.

Group D.—Processes where protection from splashing metal is required.

Group E.—Processes where protection from gases, fumes, and liquids is required.

Group F.—Processes where protection from an excessive amount of dust and small flying particles is required.

Group G.—Operations where protection from reflected light or glare is required.

Group H.—Processes where protection from injurious radiant energy with a moderate reduction in intensity of the visible radiant energy is required.

Group I.—Processes where protection from injurious radiant energy with a large reduction of the visible radiant energy is required.

THE six definitions of protective devices offered by the code indicate the types of protection afforded:

Protector:—A protector is a device which is placed in front of the eyes, face, or head to afford protection

from the hazards in industrial processes or from the natural elements.

Goggles:—Goggles are an optical device worn before the eyes, the predominant function of which is protection to the eyes only.

Face Mask:—A face mask is a device worn before the eyes and a portion or all of the face, the predominant function of which is protection to the eyes and face.

Helmet:—A helmet is a rigid device worn by the operator, which shields the eyes, face, neck, and a portion or all of the other parts of the head and is held in place by suitable means.

Hood:—A hood is a device which completely covers the head, neck, and portions of the shoulders so as to exclude dust and flying particles.

Shield:—A shield is a device to be held in the hand, or supported without the aid of the operator, the predominant function of which is protection to the eyes and face.

The application of the principles of the code by every industrial plant whether large or small will do much to reduce the disgracefully large number of industrial eyesight accidents and thereby minimize a tremendous economic loss and immeasurable pain and suffering.

Fire Losses

(*Continued from page 20*)

cendiarism, and carelessness in preventing fires on property when it is left idle and unprotected. It is difficult to ascertain how much of the total losses was caused by undiscovered incendiarism, and to reduced diligence in caring for idle property. According to data of the National Board of Fire Underwriters the losses known to be due to incendiarists constituted in 1925 less than one per cent of the total. Nevertheless, the striking tendency persists for losses to vary in amount with certain general indexes of business activity.

The problem of preventing fire waste therefore involves the following phases: (1) An annual increase in the aggregate property loss during the past nine years and an annual average loss in excess of a half-billion dollars for seven years, despite the progress of "fire insurance engineering" and a continuous campaign to promote fire prevention through individual and public efforts; (2) the maintenance of municipal and forest fire departments at an estimated annual cost equal to that of the fire loss; (3) a per capita loss annually so much larger than that of European countries as to be called "our national disgrace," after allowing for inflated values of property and for difference in the economy of construction materials and in building and fire loss regulations here and in Europe; (4) the fact that, although the proportion borne by the sum-total of fire losses to the total value of existing property in the country has been decreasing from year to year, the aggregate of fire losses continues to increase and represents buildings consumed which "if placed on lots of 65 feet frontage, would line both sides of a street extending from New York to Chicago;"[4] (5) heavy annual waste of timber and forest resources by fire loss which in 1926 amounted to $26,900,000; and (6) while business fluctuations, criminal dishonesty, and incendiarism contribute definitely to total fire losses, carelessness and individual indifference are in general held chiefly responsible. In view of these facts, it is necessary to stimulate the sense of individual interest and responsibility for fire prevention, to show that investment in fire preventive equipment brings a good return, and by every available means to make prevention of fire waste really effective.

[4]H. C. Brearley, "Fifty Years of a Civilizing Force," p. 164, quoting statement of Whitney Baker, editor of the "Engineering News," New York, March 24, 1909.

RESULTFUL LETTERS

(*Continued from page 22*)

enclosing the order-form and return envelope.

Those are always the *four steps* to keep in mind in selling by the spoken or written word; and it's well to remember that "interesting" means *interesting to the reader.*

What does *he* care about "The Blank Mutual Insurance Company being one of the best and strongest institutions of its kind in the country"?—He hasn't any money invested in the Blank Insurance Company, and he doesn't care a cuss how good and strong it is, *unless* he begins to think about buying insurance from it. *Then* he cares.

But to lead him along to the point where he begins to care, it will be necessary first to lead him past the point where he WANTS insurance, and well into the point where he believes that *mutual* insurance is the mare for his money.

The letter-writer who starts out with the dope about his "capital and reserve" may be mighty interesting to *himself,* but he's talking to a dead telephone so far as his farmer-prospect is concerned.

The quickest and surest way to get any man's interest is to talk about *his* possessions. The quickest and surest way to have him *understand* every word that you say, or write, is to talk to him in his own language, not in so-called "Business English." The quickest and surest way to be *believed* is to be believable:—to bring in positive PROOF, just as the author did in the early part of this article.

The quickest and surest way to *get* action is to *suggest* it;—by giving him a stamped Government post-card to sign which will relieve him of his RISK from the moment it enters your office.

A GOOD business letter about mutual insurance is simply one that starts out in a friendly conversational tone to talk to the prospect about his own possessions; goes on to give him a clear understanding of the risk he is running in leaving those possessions unprotected; leads him along to *believe* that *mutual* insurance is cheaper and safer and better than any other kind; and concludes by putting in his hands and in his mind exactly what he must do next and NOW to slide his RISK over onto the big, broad shoulders of YOUR Mutual Insurance Company.

Try your hand, now, at writing a letter like that! —You'll find it's really *easier* than writing the old-fashioned kind full of "Business English", because you don't naturally *think* in "Business English"—nobody does—and you *do* naturally think in the tone and in the words you will want to get into this conversational kind of letter.

Don't try to do any "fine writing." Just *think it through* before you begin to write, and then WRITE AS YOU WOULD TALK to the same prospect, or to the same general type of prospect, if you had him seated across from you.

CHECK your letter against the four points; ask yourself whether the

(*Continued on page 29*)

Crop Hazards

(*Continued from page 6*)

inches the yield has averaged 33 bushels to the acre."[3]

H. A. Wallace has made a more exhaustive study of the relationship of both rainfall and temperature upon the yield of corn.[4] His analysis extends over the years 1891 to 1919 with a comparison for each of the months of May, June, July and August and for each of the 8 leading corn-belt states. Correlating rainfall and yield and average temperature and yield he obtains the following interesting results for the month of July:

TABLE I—*CORRELATION COEFFICIENTS BETWEEN WEATHER AND CORN YIELD*[5]

State	Yield and rainfall for July	Yield and temperature for July
Indiana	+0.59	—0.47
Illinois	+ .65	— .64
Iowa	+ .12	— .29
Kansas	+ .77	— .75
Minnesota	+ .13	— .08
Missouri	+ .53	— .65
Nebraska	+ .59	— .59
Ohio	+ .65	— .17

By applying both rainfall and temperature for those months which were most significant, Wallace obtained multiple correlations of .79 for Missouri, .46 for Iowa, .67 for Nebraska, .66 for Indiana, .56 for Minnesota, .75 for Ohio, .81 for Illinois and .86 for Kansas.

These results show a significant relationship between rainfall and yield and between temperature and yield for corn for some of the leading states. This relationship is by no means a perfect one but it does not need to be to demonstrate that in insuring the farmer against an unusually small rainfall, he is being protected against a loss of a major portion of his crop.

OTHER investigators have studied the relation of weather to other crops. Thus Smith has found a rather high inverse correlation (—.73) between March snowfall and the yield of winter wheat;[6] Kincer has found a high positive correlation (+.88) between rainfall and temperature combined and the yield of cotton for Texas;[7] a fair degree of positive relationship between May and June rainfall and the yield of spring wheat in North Dakota has also been demonstrated.

From the results of these various studies, the insuring of corn against drought appears the most promising. This seams feasible for certain states only as in some of the states the correlation is not very high.

Assuming then that there is, for corn, for certain of the leading states, a close enough relation between rainfall and yield that an unusual decrease in the one will mean a loss in the other, from what sources will the original estimates of probable rainfall be based? During the first few years reliance would have to be placed upon the averages obtained from the records of the Weather Bureau. These records extend over varying lengths of time and the locations of observers are more numerous in some localities than in others.

If, however, estimates of probability and premium rates were based upon the rainfall for a period of say 1½ months, July and the first half of August, and included a fairly long series of years, they should approximate the probability of individual risks for the section in which each station is located.

Once written, the records of each individual risk would serve to supplement the averages for the section. This leads us to the consideration of a third difficulty. To determine whether a loss has occurred or not, a record would need to be kept of the actual rainfall at each insured farm. This would necessitate the installation of a rain gauge in the proximity of each insured risk. To avoid the necessity of measurement with each successive rain, a recording meter would be best and if especially designed for the purpose and manufactured in quantity it would not be especially expensive. It would need to be so constructed and so located that it could not be easily tampered with.

(3) Smith, *op. cit.*, p. 155.
(4) Wallace, H. A., "Mathematical Inquiry into the Effect of Weather on Corn Yield in Eight Corn-Belt States", *Mo. Weather Rev.*, August 1920.
(5) Perfect direct correlation is indicated by +1.00, perfect inverse correlation by —1.00 and no relationship by 0.00.
(6) Smith, J. W., "Effect of Snow on Winter Wheat in Ohio," *Mo. Weather Rev.*, Oct. 1919.
(7) Kincer, J. B., "A Correlation of Weather Conditions and the Production of Cotton in Texas," *Mo. Weather Rev.*, Feb. 1915.
(8) See Smith, J. W., *Agricultural Meteorology*, p. 191; also Wallace, H. A., and Bressman, E. N., *Corn and Corn Growing*, p. 274.

THERE are many other practical points which may be raised as difficulties to the successful writing of this special line. Thus to the degree that there is not a close relation between rainfall experience and crop yield a farmer might profit from his insurance while reaping a good crop. Or he might have an average amount of rain and still have a poor crop due to any one of a number of causes. This is readily granted as a problem to be dealt with but not an insurmountable one. Rain insurance is written at the present time covering fairs and athletic events on the basis of a definite measurement of rain within definite time limits. This same problem has been encountered there and at least in a measure has been met.

There is the practical problem of the critical period of growth. It has been demonstrated that the period immediately following tasseling is the point at which rainfall is most needed.[8] The writing of rain insurance would soon demonstrate with additional experimentation the most critical period to be covered.

There is the very practical problem of the rate of rainfall. A "sizzle-sozzle" and not a "gully-washer" produces more corn. A very small amount of rain, also, oftentimes does more harm than good. Experience would probably prove the necessity of taking into account, in a measure at least, this factor of rate of rainfall.

The series of correlations presented in Table I suggests the importance of the factor of temperature. Fairly cool weather having a mean temperature of from 72 degrees to 75 degrees for July is the most desirable. Perhaps a combination of rainfall and temperature coverage would ultimately be developed as a still more useful form.

The Outlook

TO await answers to all of these problems, is, however, to fail to meet for some time to come a farm hazard of major importance. Their most thorough solution, furthermore, will only be made in an actual endeavor to insure against them. With an actual writing of the cover, a wealth of data, widening and making more accurate our knowledge of weather conditions, would result.

In experiments to date in the insurance of growing crops, intricate details have been met growing out of the proper placing of the insurance and the adjustment of claims. The

writer does not believe that the obstacles in successfully adapting rain insurance to agriculture are any more difficult than those in other lines of crop insurance. In some particulars, and notably in adjustments, the difficulties it is believed would be much smaller. There would be no problem of the extent of direct damage to the crop, of whether this was caused by the hazard insured against or by some other hazard, of the extent to which the crop was damaged before the insurance became effective, of the ultimate market value of the crop. To avoid these problems of adjustment is to avoid the cause of most of the failures in past crop insurance attempts.

The State and Insurance

(*Continued from page 12*)

sions for public employees would probably generally be agreed to be a proper public function. Compulsory automobile insurance is on trial; we can afford to wait for results. Undoubtedly there are emergencies of so vital a character and social problems of so broad a scope and of so great importance that the government is fully justified in extending its activity beyond that of mere regulation and publicity. Into what fields that activity shall be extended, and how far, are the problems to be solved.

The reiteration of slogans and dogmas is no solution; each case must be judged on its merits. One may, however, safely assume that the burden of proof is on the proponent of governmental action. First, he must establish the existence of a situation sufficiently serious to call for consideration of correction by social action. Granted that such a situation is shown it may further be assumed that the less the extent of the social action necessary for its correction, the better.

In general, social action may take three forms; encouragement, compulsion and provision of facilities for administering the corrective process. The consideration of any action directed to these ends demands a weighing of the probability that any form of governmental machinery is adapted to the purpose. There is always the question whether a particular scheme, even if started on a sound basis, will continue to be soundly operated through the political and economic changes which may come in the future. Not least to be kept in mind are broad questions of effect on the general welfare through the influence of particular decisions on general public policy. In other words, one should ask not only what is to be the direct result of an individual act, but also to what is it likely to lead.

The very sovereignty of the state may be disadvantageous in the operation of a given insurance scheme. Lack of effective criticism or competition may lead to loose methods and emphasis on those aspects which make for a superficial showing of success. Competition is, of itself, wasteful but in the present state of human nature and political organization it may be necessary in the interest of soundness and of improvement of business methods.

EXPERIENCE with public insurance funds in the United States has been varied. Certain competitive workmen's compensation insurance funds are well-managed, sound institutions; the record of the monopolistic funds, so far as it is available, seems to be less favorable. State life insurance in Wisconsin has had little success. Bank guarantee funds have been notoriously unsuccessful. Hail funds have been adversely criticized on what appears to be just grounds. Pension funds are frequently found to be on an unsound basis. The financial success or failure of public fire insurance funds is often a matter of luck.

Experience with state insurance should be studied to determine to what extent failure has been due to defects which may be remedied and to what extent its causes have been inherent in governmental activity.

Of encouragement and compulsion there is little to say since our experience, outside of workmen's compensation, is so limited in these fields. Nor do they present the same type of question for consideration. Insurance may be provided *either* by the state or by private interests. Compulsion or effective encouragement are essentially governmental functions requiring, for their justification, the development of a situation which requires such action for correction.

It is not the purpose of this article to arrive at final conclusions concerning the functions of the state in insurance. As has been suggested, such conclusions should be drawn only after exhaustive study of individual situations and experience bearing upon possible remedies. Certain propositions may be advanced, however, for consideration:

1. State regulation of the insurance business has proved itself an essential part of modern government.
2. Requirement of insurance and allocation of its cost has proved itself in the case of workmen's compensation. Extension of this compulsory principle to other fields is an open question, the answer to which awaits further investigation and experience.
3. Operation of insurance schemes by the state has not proved itself generally. The burden of proof of the desirability of such operation is clearly on its proponents.
4. Experience with state-encouraged schemes is so limited as to offer little basis for comment.

RESULTFUL LETTERS

(*Continued from page 27*)

first paragraph is likely to INTEREST the prospect, remembering that he is most easily and most surely interested in himself and in his own possessions. See whether every word you have used in your letter is a COMMON word, likely to be common to you and your reader. If in doubt, change the doubtful word to a SIMPLER one.

Remember, he *must* understand before he can *believe;* but don't forget that he must believe before he will ACT. See that your letter doesn't make any unsupported claims. PROVE all points which your prospect would be likely to *question,* because you'll never get another chance to *answer* his questions.

Finally, give him something definite to DO about it right now while his mind is full of your facts and favorably disposed towards you. You'll never get a *better* chance.

Try it NOW, while you have all the ideas on top of *your* mind!

Engaged

First Married Man—Allow me to present my wife to you.

Second Same—Many thanks, but I have one.—*Answers.*

Archibald—I live in the country now. It's terribly dull.

Florence—It must be. What do you miss most?

"The last train."—*Answers.*

"Don't trust him—he is a fellow who will pat you on the back to your face and laugh in your face behind your back."—*Pele Mele, (Paris).*

Premiums and Trust Fund

(*Continued from page 18*)

(or most of it) which has not yet been earned by the company. It requires, therefore, no great stretch of the imagination to conceive of insurance premiums in the fire and casualty fields as funds which virtually are being held by the insurance company in question for the insured. It it true, of course, that in a very high percentage of all of the cases of such insurance that the insured never asks for the return of the unearned premium. Inasmuch, however, as such requests can be made and must be honored by the insurance company, it is certain that the premium is somewhat in the nature of a trust fund in the hands of the insurance company. Furthermore, as was shown in an earlier part of this article, in the field of life insurance also, a considerable part of the annual premium is placed in a reserve which is accumulating at an assumed rate of interest to meet the claims of the beneficiary when the policy matures. And, if the insured under a life policy desires to cancel the contract at any time, the reserve is looked upon both in law and in business procedure as a sum of money due the insured in very large part and which, upon his request, must be handed over to him by the insurance company in question.

Aviation Insurance

(*Continued from page 10*)

"Stick and wire" construction seems to have been largely supplanted by denalumin tubing. The underwriter welcomes this but must at the same time be most insistent about rigid inspections. Welded joints often have defects which are invisible even under the microscope. Vibration gradually works these defects larger and unless they are discovered in time they eventually cause a crash.

The territory to be traversed is the fourth most important of those hazard factors, the interest in which is general among underwriters of the various aviation risks. This factor includes consideration of topography, regular and intermediate (emergency) landing fields and their equipment, the weather to be encountered, the facilities for predicting that weather and the means of communicating weather forecasts to the pilot before "taking off" and while in the air.

The topographical considerations are numerous. If an aircraft risk is going to remain in a low flat country with broad meadows dotting the landscape on every side, the underwriter can practically forget this phase of the general hazard factors. Very often, however, mountain ranges must be crossed. This requires a relatively high powered engine to overcome the effect of the high altitude. If cities are to be continually passed over, the probability of making a safe, forced landing will be remote unless the aviator is flying high enough to glide down and out to the open country.

REGULAR, fully equipped, intermediate landing fields on the routes to be flown over are essential. The United States Government Airways plan includes a landing field, either regular or intermediate, every twenty miles. This will make it possible, except in extraordinary circumstances, for a plane flying at a reasonable height to reach a landing field in all but unusual weather.

Some authorities feel that the underwriting hazard in aviation is preeminently of the weather. The statistics earlier in this article do not bear this out for they list "the weather" as the third or fourth most important accident cause. The fact that it is so close to the top of the list of causes makes it a matter of vital interest to the underwriter, however. He must consider this when thinking of the territory in which the aviation operations are to be carried on because, with the territory outlined he can have a general idea of the prevailing weather conditions.

The availibility of regular weather reports for the pilot before taking off and while he is in flight are important. The factor that has kept down the number of English and French cross-Channel accidents has been the constant communication kept up between the radio stations at Le Bourget and Croyden and the pilot. On taking off he is given a forecast as to the conditions that he will meet and he checks back to the departure point on this. At regular intervals he receives new forecasts and when particularly bad weather is predicted ahead he follows the wise course of a premature landing.

IN order to reduce the accidents due to the weather hazard it is proposed to incorporate into the conditions of the policy the requirements that the pilot or his commanding officer must, before each plane "takes off," make a critical examination of weather charts and weather forecasts affecting the impending journey. To guarantee the carrying out of this provision the pilot should be required to enter into his log a record of such examination.

There is a popular misconception that the United States Air Mail service operates regardless of weather. Air Mail pilots are instructed to descend when adverse weather conditions require it and to transfer their mail to the nearest railroad station. While these instructions have not seriously affected the Air Mail performance records, they do explain in a large measure the fact that 2,500,000 miles were flown prior to March 1, 1927 without a single serious accident.

As with some of the other hazard factors already discussed, the future is brighter than is the past. The United States Bureau of Standards is carrying on perfecting experiments with radio aids at College Park, Washington, D. C. A model light weight radio receiving set is being evolved. Radio beacons, for giving pilots their bearings in a fog or at night, are being perfected. Such an apparatus is already in effective operation on the Stout (Ford) Air Service routes to and from Detroit.

The future will be brighter than the past if the underwriter will incorporate into the policy clauses requiring maintenance of standards similar to those outlined above. Some believe that improvement in the ability of the pilot is impossible. They feel that the only field of hazard reduction for the underwriter to intensively cultivate is that of mechanical improvement. This extreme belief is not accepted universally by any means but whether it is entirely true is of small moment. It shows the outstanding importance that some experts place on the field of scientific elimination of the preventable phases of each hazard. It seems clear that the underwriters must of necessity support such efforts.

McGinnis (*buried in cave-in*)—Blazes, man, be careful with that shovel! You hit my leg twice.

McCarty—Say, if you can do this any better, come up here and dig yourself out.
—*Kablegram.*

"What is your worst sin, my child?"

"My vanity—I spend hours before the mirror admiring my beauty."

"That is not vanity—that is imagination."—*Nebelspalter,* (Zurich).

A pedestrian is a man whose wife has gone out in the car.—*Everybody's Weekly.*

Teaching Auto Drivers to Be Good

Chicago Park Police Try New System of Education With Reported Good Results

VIA the *New York Evening Post* we find at last a few good words spoken for Chicago. Michael W. Straus writing in that Journal says:

"Those who grew up in the hay age apparently find it impossible to shift gears into the gasoline age, and the plea of youth is to make the streets safe by removing the incompetent, silver-haired chauffeurs.

"Chicago's West Park administration, after struggling with the national problem of motor accidents and deaths, has adopted a policy of teaching instead of punishing. Offenders in anything except flagrant speeding or driving-when-drunk cases are sentenced to school instead of to cells or to pay fines.

"This is not a 'stunt' on the part of the boulevard police, but an experiment which has been going on for four years and has proved so successful that it will be made a permanent routine.

"Violators of traffic rules are stopt by traffic police in the way which is the custom the country over, and handed arrest slips specifying the violation and the time they must appear in court to answer the charge. The correspondent attended a session of the court this week and saw the violators come trouping in, one by one, with the telltale cards of admission in their hands bearing witness to high speed, parking without lights, left-hand turns, turning in the middle of the block, and a dozen other prohibited acts.

"Some were in kid gloves and fur coats, and others in overalls. About 400 violators assembled, with age outnumbering youth two to one, and all with the sullen look that precedes the usual police court razzing of the culprit. But they had a surprise in store for them. Instead of a judge, a motor-club official appeared on the bench and started to hold class.

"Figures of the West Park Commission show that this unusual method of handling traffic, by education instead of fear, is having the desired result.

"In 1924, just before the first violators' classes were started, sixteen persons were killed in three months on the fifty miles of thoroughfares thus administered. That is at a rate of sixty-four a year.

"In 1926, despite increased traffic, there were only twenty deaths, and in 1927 there were twenty-seven deaths. In three and a half years only one child has been killed on the way to or from school, altho 90,000 school children cross the boulevard system four times a day."

Michigan Avenue in Chicago is a Famous Auto Thoroughfare

"Who's that behind us, Fred?" asked the man at the wheel as a car hooted.

"Only a flapper in a roadster," Fred answered.

The driver hurled his wheel over, swerved the car off the road, crashed through a fence and turned turtle.

"Thank heaven we escaped!" he muttered.—*Smith's Weekly, (Sydney).*

Judge—"I can't understand a big, husky man like you beating a poor frail little woman like your wife!"

"But she keeps nagging and taunting me until I lose my temper!"

"What does she say?"

"She yells, 'Hit me! I dare you! Go ahead! Just hit me once and I'll have you dragged up before that bald-headed old fossil of a judge'."

"Case dismissed."

Roscoe—The only thing I admire about Gertie is her natatorial prowess.

Alicia—You don't do her justice—she's a wonderful swimmer, too.

You Said It

The movies will never be really silent drama until they eliminate the sub-titles.

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STRENGTH

A Consistent Record *of* Successful Accomplishment

The strength and soundness of the "N-R-M" is shown by a resume of its condition at the end of the last several years. This makes an interesting study for those who wish to make greater use of this insurance company and of its service.

YEAR	CASH ASSETS	LEGAL RESERVES	NET CASH SURPLUS	LOSSES PAID	DIVIDENDS TO POLICYHOLDERS
1919 . .	$ 71,952.93	$ 21,409.44	$ 50,543.49	$ 26,187.55	$ 9,135.92
1920 . .	96,190.46	44,668,49	51,521.97	36,431.16	23,829.74
1921 . .	108,911.27	55,629.98	53,281.29	66,529.58	51,166.05
1922 . .	240,695.88	122,635.77	118,060.09	102,138.72	44,938.67
1923 . .	287,796.02	167,502.08	120,293.94	194,754.56	73,445.20
1924 . .	334,308.77	202,879.93	131,428.84	332,540.97	117,809.94
1925 . .	454,392.85	304,230.73	150,072.12	331,794.78	150,788.58
1926 . .	580,281.33	379,137.30	201,144.03	469,559.28	220,620.87
1927 . .	707,576.08	456,063.34	251,512.74	421,043.63	294,859.04

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